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ABSTRACT

Members of professional organizations, representing school libraries and audiovisual personnel, set up new standards for staffing the library media centers. These standards recognize that school libraries were taking on new and greater responsibilities and were incorporating more and more audiovisual functions which require a new professional expertise, combining the skills of the librarian and those of the audiovisual specialist. This report is concerned with a study that was devised to provide some measure of the extent to which these standards were being adopted, not only in the staffing of school library media centers and the programs they developed but also in the professional schools at colleges and universities which prepare the staff for these centers. The general conclusion of this report is that the school library media field is making only tentative steps toward joining the two functions traditionally performed by librarians and by audiovisual specialists. While the best programs are moving toward new standards, very few school library media programs approach those standards. The report concludes with a summary of Federal efforts in the media field, particularly as these bear on the focus of this report. (Author/SJ)

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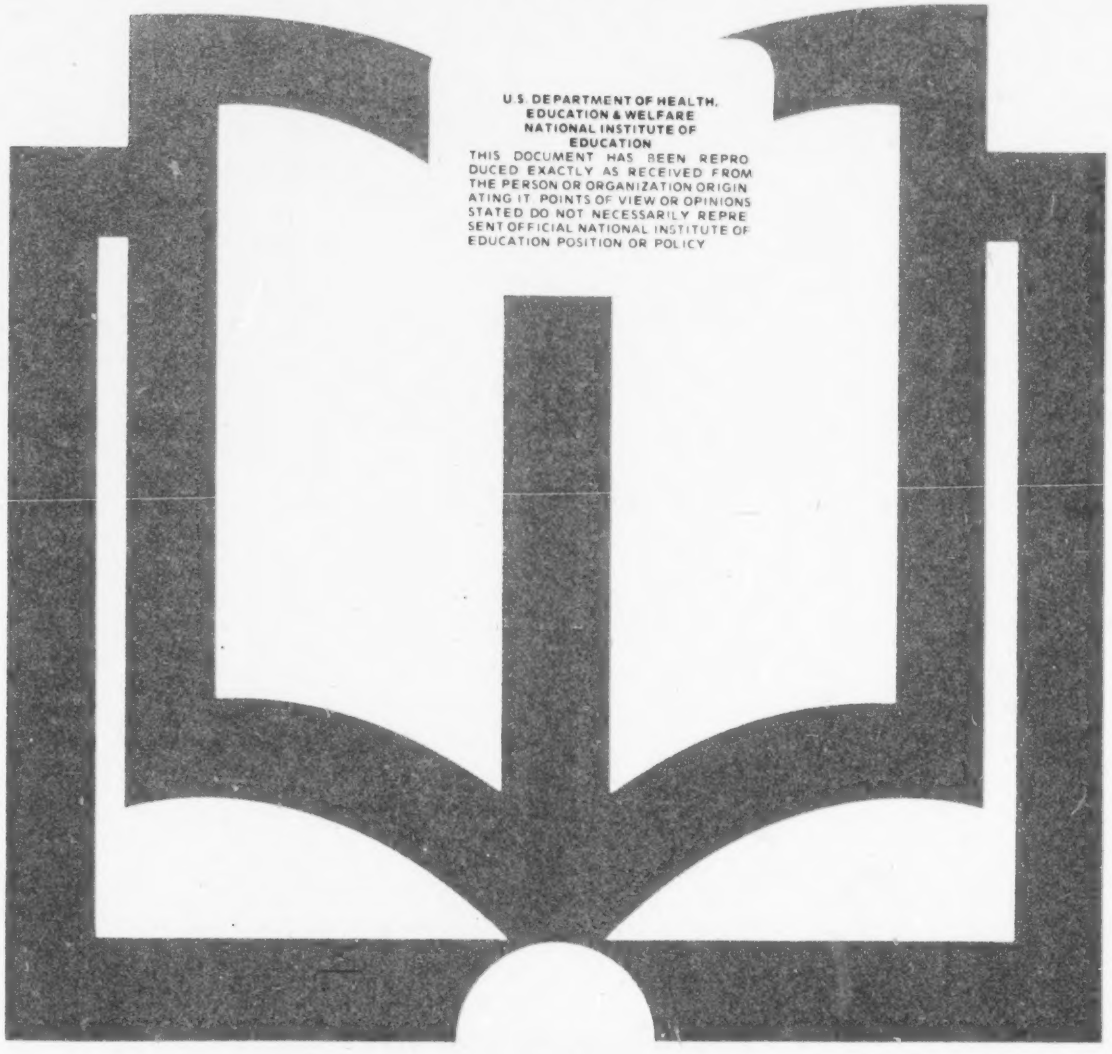
THE EDUCATION PROFESSIONS 1971-72

An annual report on the people who serve our schools and colleges—1971–72—as required by the Education Professions Development Act

Part IV—A Manpower Survey of the School Library Media Field



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Preface

The Education Professions Development Act requires the U.S. Commissioner of Education to appraise current and future education personnel needs and to publish an annual report on the state of the education professions. The annual report for 1971–72 is being issued in four parts—each devoted to a separate concern.

Part I reported on the supply of and demand for education personnel in public elementary and secondary schools and in colleges and universities; part II, differentiated staffing; and part III, the supply of and demand for special education personnel. This last report in the four-part series attempts to review the state of the school library media field.

Several years ago members of professional organizations, representing school librarians and audiovisual personnel, set up new standards for staffing the library media centers which were being developed in elementary and secondary schools throughout the country. These standards recognize that school libraries were taking on new and greater responsibilities and were incorporating more and more audiovisual functions which require a new professional expertise, combining the skills of the librarian and those of the audiovisual specialist. There appears to be widespread agreement among librarians and audiovisual specialists that the criteria make very good sense.

This report is concerned with a study that was devised to provide some measure of the extent to which these standards were being adopted, not only in the staffing of school library media centers and the programs they developed but also in the professional schools at colleges and universities which prepare the staff for these centers.

The general conclusion of this report is that the school library media field is making only tentative steps toward joining the two functions traditionally performed by librarians and by audiovisual specialists. While the best programs are moving toward new standards, very few school library media programs approach those standards.

The report concludes with a summary of Federal efforts in the media field, particularly as these bear on the focus of this report.

ACKNOWLEDGMENTS

The report was prepared under the direction of Gerald W. Elbers, Chief, Undergraduate Preparation of Educational Personnel Branch, National Center for the Improvement of Educational Systems, where responsibility for the report has been assigned.

As has been the practice in previous reports, reliance has been placed on outside agencies and individuals to help in its preparation. This study was conducted under contract by Social, Educational Research and Development, Inc., Washington, D.C.

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CHAPTER 1

Objectives, Findings, and Conclusions: A Summary

BACKGROUND

As most students and all teachers know, the traditional school library has played an important role in public education. But for the most part the library has been a passive partner in the educational process, a resource and support for the teacher's management of learning. There have been, to be sure, exceptions where outstanding librarians have joined with perceptive teachers and administrators to augment the library's place in the educational process, but for the most part the isolation and nature of the school library has tended to keep it on the periphery of the student's day.

Proponents of the new "media centers" see them as having a far different role and function —reaching out through a variety of techniques to intervene directly in the learning process. At its edges this change blends in with the advance of instructional technology throughout the school; the media center promises to become a catalyst for revolutionary changes which technology may bring to education. Given the large scope of this potential, the training of the new media specialist clearly has implications extending far beyond the library and audiovisual professions.

This is a report of a survey of manpower supply and utilization in the school library media field. A comprehensive look at the changes now taking place in the library and media areas would be far beyond the feasible scope of this work. Therefore, this report is directed at exploring the following questions: (1) the extent to which schools and school systems are implementing programmatically and in the hiring of personnel the *Standards for School Media Programs* jointly set forth by the National Education Association (NEA) and the American Library Association (ALA) in 1969;* (2) the extent of change in the preparation which institutions of higher education give to prospective librarians and media specialists in light of the new standards. These standards, which replace those formulated in 1960, are like most national statements of their kind designed to stimulate improvements. As the standards point out, ". . . although there is often a time lag between the appearance of national standards and their achievement on a wide scale, the standards are not visionary but firmly based on the very real educational needs of today."

In this report, a school library media program is defined as the facility, center, or site within a school or school system where activities dealing with audiovisual equipment and facilities and library activities occur. The term school library media personnel for purposes of this study refers to any person (professional or nonprofessional) working in a school library media program, whether the focus is on audiovisual equipment and facilities or traditional library equipment and facilities.

The study included surveys and visits to institutions of higher learning where training of persons working in the field occurs, surveys of school systems and site visits to exemplary school media centers.

The basic conclusion of the study was that very little data are available in schools and training institutions to provide definitive information on the problems in the field and the direction in which it is moving. For example, relatively few training institutions have de-

* *Standards for School Media Programs*, American Library Association and National Education Association, Chicago and Washington, 1969.

tailed information on where their graduates go or what work they do after graduation; few school systems have assessed or evaluated their media programs and are able to indicate the extent to which the programs meet professional standards. Finally, there is little hard evidence indicating that even the most advanced media programs contribute significantly to learning. (The situation here, of course, is typical of education as a whole.)

Another major finding of the study is that the field of school library media is in a state of flux. It is composed of two major streams—(1) audiovisual programs, services, and facilities and (2) school library programs—that traditionally have been strongly independent of each other. The school library stems from a traditionally print-oriented framework. The "librarian" traditionally was a person who was responsible for the care and use of books. The historical origins of the audiovisual program are somewhat different. Audiovisual equipment and materials were handled by a teacher or an administrative person in the school who had personal inclinations toward audiovisual equipment and materials. The field is moving toward a merger of the two programs. However, the merger is far from being achieved in most instances. Generally, there have been tremendous advances in the utilization of both audiovisual equipment and facilities and library equipment and facilities. Although some sophisticated school library media personnel are exceptions, the typical program in most schools is one where the library and the media center exist independently of each other. Both programs and/or centers may be under the direction of separately trained professionals, both of whom report independently to different administrative officers in the school.

The next logical step in this historical transition is for all media programs to be centered in one facility within the school and/or school system and be under the direction of a single staff. This will make for a truly multimedia program.

The final step in the historical development of media programs is for this program to become an integral part of the learning process and not an enrichment as it is now. The staff of the media center then will play a key role in curriculum development, establishment of objectives, and the like. In most areas, this last step is a long way in the future.

The ALA-NEA standards propose highly sophisticated media centers in elementary and secondary schools housing a multiplicity of equipment, facilities, and professional and nonprofessional staff persons. This study did not identify any center that fully and completely met the standards.

These standards, it should be emphasized, were deliberately set "high" in order to encourage further progress in the field. They are hardly a fair representation of the scene as it is today; in the majority of cases it will be years before the ALA-NEA standards are even approximated.

Despite the caution with which these standards should be approached, they do represent an important theoretical advance in the media field—a turning point in the slow merger of what was once two quite different occupations. As this report points out, the differences between the librarian and the media specialist—once major, still real—are slowly blurring. It is hardly surprising that practice lags behind theory; it is encouraging that both have moved as fast as they have. This report attempts to point out both the areas of progress and the areas of slowness.

A contentious issue is the number of people working in the field. Estimates of the number of media specialists employed in the United States range from 16,000 to 40,000. The extent of these persons' qualifications is not known. A similar problem involves projections of the numbers of persons the field might employ in coming years. If one asumes that in school year 1968–69 about 40,000 persons were working in the field, the total by 1980 could range from 51,000 to 200,000, depending on assumptions established about the demand.† A similar range of projections can be made for technicians; if one assumed 24,000 technicians are presently employed, more than 200,000 could be working in the field by 1980. Similarly, for audiovisual specialists the demand could increase from about the presently employed

† The low figure is based on the assumption that the pupil/librarian ratio will remain constant; the high, on the assumption that the ratio recommended by the new standards will be met. See chapter 5 for a full analysis of this issue.

40,000 to slightly more than 200,000 in 1980. The general conclusion of this study is that the low estimates are probably more realistic than the high estimates.

Elementary and secondary school media programs, school libraries, instructional materials centers—however they may be called[1]—constitute some of the most rapidly changing areas in the educational field.

The model or ideal school library or media center program today is usually thought of as a separate center containing not only books, but also all forms of audiovisual (AV) facilities and equipment. In terms of this study the phrase "media center staff" includes people skilled in using forms of media aside from books.[2]

Later on in this report, it is noted that another type of position is emerging—the instructional development specialist. Whereas the media specialist is more concerned with provision of materials, the instructional development specialist is oriented to the application of the systems approach to learning—from the identification of goals to the development and selection of materials.

These changes in standards and goals raise a series of questions, the most important of which is the extent to which changes have occurred in the utilization of people in the school media field. Related questions are:

1. To what extent are media specialists utilized? How are they trained? What is the supply and demand for them in the foreseeable future?
2. To what extent are instructional development specialists used in schools? How are they trained? What might the supply and demand be for them?
3. What are the roles of library schools and audiovisual education schools in preparing these new professionals?

There are limited answers to some of these questions—but for the most part, they document the confusion and ignorance rather than provide definitive data. How many media specialists are there? The aforementioned estimates of 16,000 to 40,000 are based on interviews and direct observations, but usually include colleges, special libraries, and other institutions as well as elementary and secondary school libraries.[3]

There have been no systematic studies of the work performed by school media specialists. The efforts made in this area, for the most part, are designed to be theoretical descriptions of responsibilities rather than actual depictions of "typical" workdays. For example, the School Library Manpower Project [4] attempted a task analysis of school library jobs by compiling a list of tasks thought to be performed in libraries and asking (via a mail survey) a sample of media specialists to identify tasks they performed. The problem with this approach was that the survey was conducted by mail; therefore, the study staff was required to accept respondents' definitions and appraisals. A second task analysis study was conducted by the National Education Association (NEA).[5] It was based on interviews and direct observations, but the basic problem in this study was that it included colleges, special libraries, and other institutions as well as elementary and secondary school libraries. A third study,[6] conducted by the Social, Educational Research and Development, Inc., presents essentially the same problem as the aforementioned NEA study. Though it included an analysis of school library jobs, it was part of a broader study of library jobs in general.

The work areas identified in these studies were:

1. Preparation of materials.
2. Selection of materials and equipment.
3. Preparation of bibliographies.
4. Organization of materials.
5. Reference services to students and teachers.
6. Repairing, operation, and setup of equipment.

General categories such as these are inadequate because they provide little insight into the overall trend of the field—the extent to which professionals, nonprofessionals, clerical personnel, and others work in the listed areas; the technical and educational qualifications required to do the work, and the extent to which social trends will affect libraries/media centers.[7]

Bibliographies of materials and publications about instructional materials centers are generally inadequate for the purpose of this study.

A recent bibliography which appeared in *American Libraries*[8] contains more than 30 listings, but for the most part, the articles are descriptions of specific programs and rarely focus on the issues to which this study is addressed.

Many States have established standards for school library programs.[9] As one might expect, they vary considerably from State to State, but the most important fact is that an overwhelming majority of the school library programs fall far below these standards.[10]

The general aim of this study is to provide basic operational data on elementary and secondary school library media programs—who the practitioners are, what they do, the nature and scope of the work, the kinds of training personnel receive, how staffs are used, and the manpower needs of the future.

The study focused on these objectives:

1. To identify the present supply of school library manpower, the demand as viewed by schools through 1980, and the present and expected utilization of library manpower.

2. To assess the growth and development of school libraries (media centers) in the past decade.

3. To describe the focus of school library media centers and the extent to which change has occurred since 1960 and is occurring today.

4. To ascertain the nature and scope of training programs in universities and community colleges.

5. To describe and analyze the impact of various support programs on manpower supply, demand, and utilization, including—

   a. State, Federal, local, and foundation support.

   b. The role of professional organizations.

6. To describe the manpower requirements in the field for the 1970's, including—

   a. Gaps in the present level of knowledge.

   b. The extent to which retraining and in-service training can contribute to manpower needs.

   c. The kinds of training that should be required.

   d. The needs and/or the demand for trained manpower at various levels.

7. To identify, describe, and analyze the promise and possibilities of media technology, and its manpower implications.

Many terms are used to describe what this report designates as "a media center." Some are: school libraries, audiovisual centers, school library media centers, learning centers, unified media services, and the like. This section will attempt to differentiate between the various services and facilities and describe exactly what a media center is, what goes on in these programs, and how the programs are structured.

The first point in understanding these programs is that services and facilities exist in continuum. In terms of facilities, media programs may range from a library located in a classroom with AV equipment stored in a corner of the principal's office to the other extreme with the school library media center existing as a facility which was consciously and specially designed in the original plans for the school. When this report uses the term "school library media center," the reference is to the kinds of facilities existing on the latter end of the continuum; that is, a specially designed facility.

The school library media center, as a specially designed facility will often, but not always, exist in a strategic location within the school. The centers are usually attractively furnished with carpeting, bright colored furniture, et cetera. A commonly accepted location is to have this facility in the middle of the school where the traffic walks around or often directly through the center. These centers will contain the usual space found in a library for reading, browsing, circulation, distribution, storage, and the shelf space for books and audiovisual materials. In addition, these centers will have space for individual study and learning; small and flexible conference rooms that will house small to large groups; listening stations where various equipment can be used; darkrooms and laboratories for processing film; TV and other studies; computerized learning laboratories; and other equipment and facilities to enable the actual production of materials as well as the use of existing material.

The most important characteristic of the services offered in the ideal school library media facility is not only the provision of traditional library services, but the availability of services as an integral part of the learning process of the school. The staff will play a key role in the development of curricular materials; they will

assist the teaching staff in the development of curricular objectives and the selection and development of materials that will meet the objectives of the curriculum. In addition, students will use the center not only for traditional research in terms of selecting materials to read and examine, but the center's equipment will enable students to construct materials, reports, and so on. This may range from the provision of cameras and the use of darkrooms to television laboratories for the production of learning materials.

In terms of staff, this ideal media center will be under the direction of one professional and will consist of persons who are skilled in all forms of media and have the ability to assist in the preparation of curriculum materials.

Most programs are often lodged in facilities that once served as a lunchroom or classroom and still may be general purpose rooms within the school where books and other materials are stored for use by students. This school library will often contain some AV equipment, especially viewmasters and the like for use by students. More often than not, the staff within the school library will not participate in curriculum development within the school as a whole but serve as resource persons on call to the faculty. Also, the use of this facility by students may often be limited to certain hours of the day particularly in elementary schools.

Another trend well underway that should be mentioned at this point is the increasing use of departmental resource centers in high schools. For example, social studies departments, science departments, et cetera in large high schools have media centers that serve that particular department. Often these centers focus extensively on multimedia materials, equipment, and facilities.

There are very little data available in schools or training institutions that enable a realistic assessment of important components in the field. For example, few training institutions keep long-term records on where their graduates go, or have explored the relationship between training and demand, few school systems (especially the large ones) know the specifics of the backgrounds of their faculties, and few have information on equipment, facilities, and use of media specialists.

SUMMARY

With these limitations in mind, the basic conclusion is that the school library media field is in an extreme state of flux characterized by: the rapid introduction and utilization of new equipment, facilities, and approaches in schools; a field that is not making maximum use of persons trained in media approaches; and a demand for professionals and nonprofessionals through 1980 that is almost impossible to project or predict in any way. Specifically, this report presents these basic conclusions:

1. Little is known about actual work situations of school library media personnel and the kinds and levels of skills used.
2. Very few if any school systems in the United States meet the minimum requirements in terms of personnel, facilities, and services as described by various professional standards.
3. The evidence is limited indicating the overall contribution and value of school library media services to the learning process.
4. The school library media field is characterized by two career lines—the audiovisual professional and the school librarian. Although conditions are changing slowly, both career lines generally have been and continue to be relatively distinct from each other. Each selects different kinds of people with different kinds of interests and proclivities.
5. At the training institution level, for the most part, overall there tends to be nonexistent or minimal relationships between schools of education or instructional technology which normally train the audiovisual person and schools of library science which train the school librarian, although here, too, conditions are improving slowly.
6. At the local school system level, the same independence exists. Generally speaking, the school librarian operates the school library and the audiovisual specialist provides audiovisual services. We found very few successful attempts to integrate the two programs and services.
7. The new instructional development specialists are being trained at only a few training institutions and generally at the doctorate level. For this reason and because school systems are largely teacher and classroom-oriented and not learning-oriented, it is doubtful that this new

position will have much of an impact on school systems in the near future. In view of trends in the field described in the rest of this report, it is clear that the supply of these specialists should be continued and expanded. In doing so, however, it should also be kept in mind that budgeted demand is likely to expand only slowly over the next few years.

8. The demand for persons in the school library media field will vary considerably depending on some of the factors noted above. Some basic questions are: Is it likely that some school systems will be able to meet the basic criteria for school library media centers better in the future than at the present time? Is it possible that there will be a more rational merger between the school library field and the audiovisual field in the near future? Will school systems be more likely in the future to employ persons trained in either audiovisual and/or library services than in what is generally now the case—to assign a classroom teacher to this function?

9. A series of systematic studies should be conducted. These studies should focus on such questions as the training of media specialists, the value to schools in using staff trained to function in a unified media setting, the attitudes and conceptions school officials have toward unified media programs, the impact of these programs on learning, and the role the Federal Government should play in stimulating the development of unified media programs.

FOOTNOTES

1. We use the terms school libraries and/or media centers to include the various types of existing programs.
2. Perhaps the most precise definition of the media professional is found in the ALA/NEA Standards: "*Media Specialist*—An individual who has broad professional preparation in educational media. If he is responsible for instructional decisions, he meets requirements for teaching. Within this field there may be several types of specialization, such as (a) level of instruction, (b) areas of curriculum, (c) type of media, and (d) type of service. In addition other media specialists, who are not responsible for instructional decisions, are members of the professional media staff and need not have teacher certification; e.g., certain types of personnel in television and other media preparation areas." See American Library Association and National Education Association, *Standards for School Media Programs* (Chicago: American Library Association and Washington, D.C.: National Education Association, 1969), p. xv.
3. See: National Education Association, *Jobs in Instructional Media Study (JIMS)*, (Interim Report, Grant #OEG-0-080688-4494(085), Office of Education, U.S. Department of Health, Education, and Welfare, November 1969), 304 pp.; Henry T. Drennan, *Library Manpower: Occupational Characteristics of Public and School Librarians* (Washington, D.C.: Government Printing Office, 1966), p. 15; *Statistics of Public School Libraries, 1962–63* (Washington, D.C.: Office of Education, U.S. Department of Health, Education, and Welfare, 1964); American Library Association, *National Inventory of Library Needs* (Chicago: American Library Association, 1965), p. 26.
4. Robert N. Case and Anna Mary Lowrey, *School Library Manpower Project, Phase I Final Report* (Chicago: American Library Association, 1970), 134 pp.
5. National Education Association, *Jobs in Instructional Media Study (JIMS)* (Interim Report, Grant #OEG-0-080688-4494(085), Office of Education, U.S. Department of Health, Education, and Welfare, November 1969), 304 pp.
6. Social, Educational Research and Development, Inc., *A Task Analysis of Library Jobs in the State of Illinois* (Silver Spring, Md.: SERD, Inc., May 29, 1970), 196 pp.
7. "An Explanatory Note on the Supply of and Demand for Educational Personnel," *The Education Professions*, 1969–70 (Washington, D.C.: Government Printing Office, September 1970), pp. 77–84.
8. Lowell and Phyllis Horton, "Instructional Materials Centers: An Annotated Bibliography," *American Libraries* 1:290–3 (March 1970).
9. See, for example: The Office of the Superintendent of Public Instruction, State of Illinois, *The Illinois Program for Evaluation, Supervision, and Recognition of Schools* (Circular Series A, Number 160, Springfield: 1970), 66 pp.
10. Social, Educational Research and Development, Inc., *A Plan for Interlibrary Cooperation for the State of Illinois* (Silver Spring, Md.: SERD, Inc., January 1971), 170 pp.

CHAPTER 2

The Development of the School Media Field

The two traditional streams of training—audiovisual training and school library training—are strong, thriving, and relatively distinct from each other. Not only is there little relationship on most campuses between library schools where the training of school librarians generally occurs and schools of education where training for AV personnel usually occurs, but this dichotomy carries through to work situations at the elementary and secondary level.

A new field is emerging which tends to combine the key elements of both programs. The new specialist being produced is an instructional materials practitioner who attempts to erase the dichotomy between book and nonbook materials. In this setting, the questions about media—what kind, when to use it, and its functions—become an integral part of the learning process and not an independent adjunct to it.

However, very few of these people are being produced and still fewer are employed at the elementary and secondary level. This chapter notes these reasons for the low level of utilization: media programs of all kinds are marginal because school library and/or media programs are generally considered an enrichment and not an integral part of the learning process; schools are teacher, not learner-oriented; and finally, school library media centers, programs, and facilities are among the most fragmented and underdeveloped educational services.

THE SETTING

The concept of "media centers" stems from two streams of the educational enterprise—the library in the classroom of the schools and AV services and programs. And the streams have not been historically well-defined nor are they well-defined today.

While the school library is slowly moving toward becoming a learning center in the truest sense, it still remains true that many libraries have been and continue to be a depository of books and often a collection of books in individual classrooms or the study hall with the librarian as the study hall monitor, and generally including a program which provides supporting services to the school.[1]

The AV program's traditional role was and in most cases today is like the library, a marginal venture in schools. The availability of equipment is limited and in many settings, the principal function of the staff is ordering and scheduling the use of equipment.[2] Materials and personnel are apt to be in even shorter supply.

Many studies of elementary and secondary school media and library programs conducted over the past few years show that changes are occurring in programs, goals, staff, and services provided to students and teachers. Many programs are far more advanced and sophisticated than suggested in this report and many school media centers are not two completely separate activities, but are closely related in services and administration. But this essential point is valid: the programs are more likely to be marginal activities within the educational enterprise and function independent of each other. There is, though, an evolutionary process at work—a natural movement to better meet the goals of school libraries originally developed a half century ago. In 1920, a set of national standards[3] for school libraries, suggested that:

> —all media be "regularly accessioned and catalogued, and its movements re-

corded, and directed from the library. This will result in the greatest efficiency in the use of visual material. . . ."

—ample accommodations be provided for "assembling in the library all illustrative materials. . . ."

—materials be made available to teachers "from public or even private agencies, such as museums, city, state or national bureaus or departments, business houses, etc."

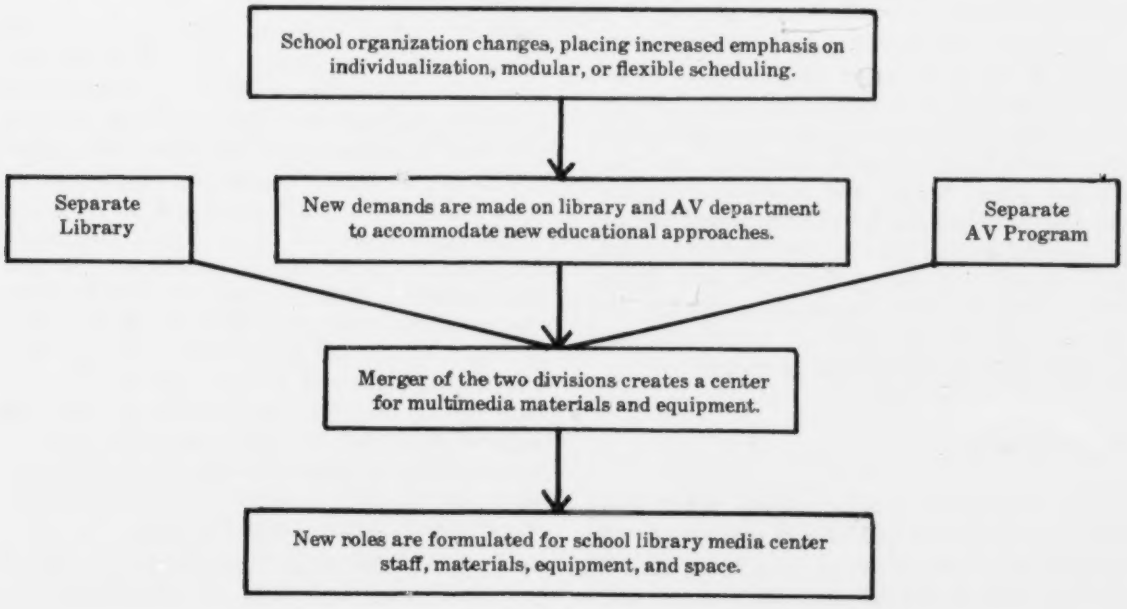
—the library be constructed as a "suite of rooms . . . (for) library-related school activities," including a reading room, work room, stacks, classroom space, committee rooms, etc.

—the library be staffed by professionals trained in accredited library schools who would "function as 'media specialists' and not simply as book specialists" and who would be supervised by "professional library coordinators at the state level."

Generally, these 1920 standards were not well met. And standards recently established [4] for the first time produced jointly by representatives from the school library field and the AV field—are designed to be much too ambitious for the status of media programs today. It will be years before they become established in most school settings. However, this effort does represent the first attempt to weld the two streams together. It places equal emphasis on printed materials and audiovisual forms of communication, has well-defined staff positions, and recommends well-equipped and well-designed space for study and storage.

Why the increased interest in better libraries and/or media programs and action toward implementing school library media centers? The major reason is that schools are changing. Increasing emphasis is being placed on such things as individualized instruction, self-directed learning, multimedia approaches, team teaching, the open school, and the like. These new concepts dictate new forms of school organization with decreasing emphasis on teacher-oriented programs and an increasing emphasis on learning-centered programs. As a result, the traditional concept of a school library is becoming obsolescent and is being replaced by a center or program which is linked to the learning process. This is the essential difference between a traditional school library and a media program. Many libraries and media centers are moving in this direction, making it possible for the school library media center to act as an active leader (rather than a passive servant) in the education of students—for it is

CHART 1.—*The Development of School Library Media Services*


School organization changes, placing increased emphasis on individualization, modular, or flexible scheduling.
Separate Library
New demands are made on library and AV department to accommodate new educational approaches.
Separate AV Program
Merger of the two divisions creates a center for multimedia materials and equipment.
New roles are formulated for school library media center staff, materials, equipment, and space.

through multimedia available in a well-equipped school library media center that a student can best individualize learning.

In many new schools, architectural plans provide for a media center. In established schools that are revising the academic organization, a library and AV program may go through several steps to meet the needs of a changing school.

The progression from two independent units within the school to single integrated media programs under one administrative unit is the direction toward which media programs are moving and is depicted in chart 1.

If chart 1 accurately depicts the future, the media center will be more than a depository for media, it will be the focal point within the school or school system for learner-centered activities. In the school library media center, media of all sorts rather than playing a passive role in the educational process, will play an active role. Materials and curricula will be created by students and teachers alike and the staff in the media center will not only make materials and equipment available on call, but will serve in the learning process by selecting, assembling, and creating the media which will best achieve the curricular objectives. Furthermore, the program will emanate out of the center to other areas throughout the school, thereby helping to more effectively integrate the learning process.

The stranger who comes in contact with the new media program will still see the staff circulating materials and equipment as presently, but he will also see the staff participating in learner-oriented programs, in team teaching, in curriculum development, and in evaluation roles.

School systems about the country have traditionally been teacher and/or classroom oriented. What this means is that what goes on in the classroom in terms of organization of materials, presentation of materials, etc., is determined by the classroom teacher. As a result, in individual cases and despite some evidence of change, media remains a fringe benefit to the educational process; it receives less of a priority than it would if it were a central component of the curriculum and entered into the classroom in terms of where it best supported the goals and objectives of the curriculum.[5]

Because media is a fringe benefit, school systems are not apt to demand and expect a high degree of competency and sophistication from media specialists. In addition, this suggests that in terms of fiscal and budget crises, media programs, since they are considered a fringe benefit to the educational process, will be one of the first components in the program to be cut. As a result, this, too, means that media programs do not receive a high degree of status within the school program.

EFFECTS OF SCHOOL MEDIA CENTERS ON LEARNING

A major question about media programs is whether or not they have a greater, more positive effect on the educational achievement of students than traditional library programs. Very little in the way of hard data is available that "proves" school media centers make a difference in the amount or kinds of learning that students receive. In this emerging field, there is a critical need for carefully controlled experimentation and research. The need for better evaluation remains pressing.

Despite this need, however, one can compile from the literature a somewhat impressive collection of facts and findings that indicate positive results do occur when well-staffed and well-equipped media centers are operating in schools.

One small-scale experimental study[6] compared the academic achievement of elementary school children in schools with and without centralized school libraries. It supports the notion that centralized school libraries manned by professional staff lead to measurable differences in reading ability, library/research skills, and amount of library activities.

A 1966 study conducted in Warminister, Pa.,[7] showed kindergarten, primary, and intermediate slow-learning children increased their cognitive skills, interest in school, and discussion skills through self-motivating media such as film loops, overhead projections, transparencies, filmstrips, slides, and puzzles. The author also reported similar findings by teachers of children who learn at the normal rate.

The Director of Project Challenge, East St. Louis Public Schools, reports:

> . . . we believe that it may be significant that the East St. Louis sixth-grade class

> which scored highest on a recent city-wide achievement test given in the East St. Louis Public Schools is located in a school which has one of the strongest media programs in the city. . . .[8]

The Sobrante Park Elementary School, Oakland, Calif., evaluated the school library media center by surveying teachers, parents, and students. The researchers reported improved reading and motivation of students, new patterns of instruction used by teachers, and behavioral changes in students who had specific problems such as "low academic achievement, emotional disturbance, (and) lack of specific learning skills." The author also reported Sobrante Park kindergarteners who used the media center more than other kindergarten groups scored exceptionally high on reading readiness tests.[9]

The study by the U.S. Office of Education of media centers in nine inner-city schools, previously without materials, equipment, and services, lends additional support to the idea that media centers lead to behavioral changes in teachers and children. The report noted that in each of the schools, it was evident that "the provision of media center resources, staff, and facilities has been instrumental in changing pupil attitude toward reading." [10] However, the report also said:

> . . . No appreciable difference was noted in pupil achievement from the reading scores; however, the nine media centers were in an elementary phase of development and no conclusion could be drawn regarding the impact of media center materials on pupil achievement at this early stage.

In the ESEA (Elementary and Secondary Education Act) Fourth Annual Report,[11] 21 successful compensatory education programs were selected and described. Several of the programs operated much the same as a school library media center. "Success" was dependent on raising children's abilities in reading and interest in learning from a variety of media sources. For example, the Intensive Reading Program in Hartford, Conn., utilized multimedia techniques not found in regular classrooms (but which may be found in a well-equipped school library media center). A significant gain was found for children in the program in vocabulary, reading comprehension, and reading achievement. The More Effective Schools Program in New York City, included use of "a complete range of audiovisual equipment and extra supplies . . . and specialists employed to enrich instructional content, with special emphasis on reading and language skills." At the Elementary Reading Centers in Milwaukee, Wis., "Materials and equipment selected by teachers included books of high-interest but low-reading level, highly motivating games, workbooks, and audiovisual devices." Project R–3 in San Jose, Calif., included on its staff an electronics technician and combined in its program reading, math, and technological skills. Evaluation of this program showed participants excelling over controls in reading and arithmetic achievement tests.

In addition to looking for improved achievement scores of children in schools where library media centers are operating, it may be important to discover if the presence of centers and trained media staff have any effect on other aspects of the educational process. How does the presence of a media center and trained staff change the behavior of teachers, children, and members of the community?

Of 345 teachers interviewed in connection with the emphasis on excellence of school media programs,[12] over 50 percent mentioned that certain behavior changed "to a great extent" since additional instructional materials and media staff were introduced to their school.

Though these percentages are based only on teachers' impressions, the fact that up to 75 percent of the teachers saw the materials affecting some behavioral change "to a great extent" seems to indicate that though the change is unmeasured, something was definitely happening in schools given well-equipped library materials and equipment.

One important result of the existence of library media centers has been increased interest of librarians, teachers, and other educators in research on such areas as:[13]

> —The contribution of school librarians to the learning process.
>
> —The organization of combined school and audiovisual departments to the teaching process.
>
> —The evaluation of student use of the library.

Table 1.—SELECTED ITEMS CONSIDERED BY TEACHERS INTERVIEWED TO HAVE CHANGED "TO A GREAT EXTENT" SINCE ADDITIONAL INSTRUCTIONAL MATERIALS HAVE BEEN MADE AVAILABLE

Teacher-Related Changes	Percent
Teacher interest in using materials in classroom instruction has increased	75.6
The use of audiovisual materials in classroom instruction has increased	69.0
There is more cooperation between media staff and most classroom teachers	68.5
The lending of special collections of materials from the media center to classrooms has increased	64.7
The number of teachers making class assignments that require the use of materials from the media center has increased	60.8
The acquisition of increased instructional materials has contributed to a move away from the concept of a basic textbook as constituting a unit of study	58.3
Increased materials made possible more class assignments that provide for the needs and abilities of individual students	58.0
The collection of professional materials for teachers has been strengthened	52.8
Student-Related Changes	
The new materials allow for the varying abilities of pupils expected to use them	64.7
The increase in materials has contributed to student learning and achievement	63.4
Increased materials have contributed to the individualization of instruction	60.2
Students have been motivated to use audiovisual materials from the media center to complete class assignments	57.6
Students who seldom used the media center before have been attracted by the new materials	56.4
The availability of audiovisual materials for independent use in the media center has increased student interest in reading and study	53.1
Community-Related Changes	
Parents have become more aware of the media center program	60.5

While the practitioners may report that fully equipped media centers lead to more effective education, it is important that those involved in education see the need for careful experimental research to support the assertion.

The ESEA Preliminary Report (1970) indicated that school media centers have an effect on the style of learning in children. Title II had a significant impact between 1965 and 1968 on increased use of the school media center by pupils especially in relation to the preparation of class assignments and reading for pleasure. Increased use of the school media center from 1965 to 1968 by all students, students with reading difficulties, and gifted students were reported by nearly 60,000 schools. Over one-quarter of the schools in each case attributed the increased use extensively to title II programs and an additional 40 percent attributed the increased use to a moderate extent to title II programs.[14]

It is also generally agreed that special education students, the blind, the deaf, the physically handicapped, the emotionally disturbed, and vocational students would benefit by access to a school library media center. One study points out:

> The needs of vocational education for newer media are great, probably much greater than for students in regular schools. Vocational students tend to be less print oriented.[15]

Another study points out that the culturally disadvantaged child, too, has special needs that may best be served by a multimedia approach to learning:

> . . . Effective communication of ideas and reinforcement of learning can best be achieved through use of a wide variety of techniques and materials. This fact has very particular applications in the case of the culturally disadvantaged child whose basic concepts and verbalistic development are limited by his environment. . . .[16]

Though considerable evidence argues for a combined library and audiovisual center, at least one study produced contradictory evi-

dence. Information from 432 teachers and 50 school audiovisual coordinators indicated that no better utilization of media occurred in a unified center than in a separate library and audiovisual department. Well-trained, full-time audiovisual coordinators did seem to have an effect even though organizational structure did not.[17]

Finally, the mere existence of a room called a media center does not necessarily assure students that they will achieve more or better than students in schools without such facilities. And according to Silberman:

> It is a rare school for example, in which students are permitted to go to the library if they have a free period; the library is open to them only if they have an assigned "library period," or if they manage to wangle a pass for that purpose from the librarian or some other person in authority.[18]

The contrast is equally apparent in his description of two English primary schools.

> Most schools also have a central library to which children generally are permitted to come at will. For the most part, these libraries are also attractive and inviting. It probably was not entirely coincidental, therefore, that the Leicestershire school described above, in which the reading level was so markedly poor, had a big sign in its library reading: "Make sure your hands are clean before you touch the books." In contrast to most schools visited, the library here was empty the entire day.[19]

In such settings, it is clear that what is available in the way of library services is not as important as how it is available.

In several universities (primarily Michigan State, Syracuse, and Indiana) a new education profession is emerging which may be able to relate educational media to the educational process. The new profession is the "instructional development specialist." The essential skill of this new profession is a process skill—the application of systems theory to learning. In this approach to curriculum planning, media are specified as required for the implementation of instructional strategies. Instructional development models as specified by Faris and others[20] involve these or similar elements: identify the educational goals, define the target population, prepare the task analysis, specify the behavioral objectives, identify the types of learning, prepare criterion tests, organize content material, decide upon teaching strategies, select commercial media and/or prepare needed media, and pilot test, test, revise, and validate material.

The functions and required competencies for specialists working at the course-development level in the design, development, procuring, production, evaluation, and integration of educational media will vary greatly from those working in school building media centers. The latter have the responsibility for providing these basic and specified materials to the teacher and paraprofessional adult supervisors of media-related instructional learning environments, as well as the enrichment and optional instructional materials to teachers and pupils.

LEVELS AND SKILLS OF MEDIA PERSONNEL

A previous section makes the point that the provision of media services in elementary and secondary schools is in a state of flux. Not only are media services a fringe benefit to many schools and hence one of the first services cut during budget crises, but these services are moving toward the model depicted in chart 1 on page 8. As a result of these and other factors, this section notes that job roles are not well-defined and more often than not are a response to basic changes in education.

A number of studies employing the general concept of task analysis have been conducted in the media field. The Jobs in Instructional Media Study (JIMS)[21] was a task analysis of media jobs which, among a variety of other things, concluded that there are four major job levels. The first is an entry level job, largely clerical in nature and requiring very little in the way of training and experience. The second level is an aide slot with the person operating equipment, performing routine work, and generally equipped to do these tasks in an on-the-job training setting. The technical level is the third level and the technician should be able to understand technical processes, applications, and principles; this position requires formal

and on-the-job training. The specialist is the last job title and this position functions to generalize, theorize, and solve problems. The specialist may supervise and administer programs and considerable formal training is required.

Another study, popularly called the "Hamreus-Edling Report" [22] grouped functions into six responsibility groupings in the school media field as follows: manual, clerical, technical, artistic production, professional, and directive-administrative.

The American Assocation of School Librarians produced a report [23] which identified six job levels somewhat similar to those in the "Hamreus-Edling Report," and which included: student assistants, clerical workers, technicians, school library media specialists, heads of school library media centers, and district school library media directors.

Martin and Stone[24] conducted a study in 1965 which identified 14 job areas. They recommended that media tasks be regrouped around three job clusters: educational managers, educational specialists, and educational technicians.

These studies do not link the levels of skills required of media personnel with the kinds of work they do. One study attempted this;[25] it consisted of a broadly based task analysis of a variety of library jobs generally ranging from the most unskilled to the most highly skilled. The study did attempt to focus on the question of the kinds of training required by persons in the library field and the kinds of intellectual skills necessary to perform these jobs. For the purposes of this report, the shortcoming of the study is that it surveyed all library jobs and not school library media jobs exclusively. Nevertheless, it does provide some general insight into the levels of skills required to carry out most library activities. Specifically, the study concluded that about four out of ten persons in the library field require language skills at the post secondary level, another 3 out of 10 jobs require reasoning ability of a logic-scientific level and an ability to define problems, interpret technical instructions, use nonverbal symbolism, etc. Also, the study concluded that about 4 out of 10 persons in the field require 13 years or more of total training time to perform their jobs adequately. As noted above, these data are limited for purposes of this study for they focus on all library jobs and not on school media jobs exclusively. However, this conclusion is without question: generally speaking, the overwhelming majority of jobs do not seem to require a great deal of education and preparation.

Several sources seem to agree with the Hamreus-Edling evaluation that colleges need to place more emphasis on certain "new" skills to better train library media professionals. Ginsberg and Brown[26] see a series of new tasks in the future. These include personnel management, administration and management of large organizations, and introduction to information science and the potentials of computers.

One author sees the elementary school library media center as the support mechanism for a full and balanced reading program since every teaching aid—". . . whether it (is) an audio-visual aid, instructional aid, multisensory aid to learning, is read by the listener, viewer, participant, and thinker . . ." [27] and can become a central focus of the program. For this reason, he believes professional staff of the media center require training as elementary school teachers with emphasis on reading, as well as training in the field of educational technology. Similar feelings were expressed by several practicing "media center specialists" visited in the field.

Gottardi[28] sees the professional in a school library media center working closely with teachers and functioning on three levels:

1. As a master teacher.
2. As a materials specialist.
3. As a media program engineer selecting the correct combination of print and nonprint materials to facilitate learning.

Goldstein echoes Gottardi in his summary of the skills expected of media specialists at the professional level:

> Media personnel . . . will be those who are proficient in selecting, organizing, relating, producing, using, and evaluating the newer devices and their associated equipment. These specialists—or generalists . . . will have . . . backgrounds in the . . . knowledges and competencies . . . associated with school librarians: ability to select a variety of media, skill in finding and using appropriate media to provide

for a variety of specific individual needs and to promote individual self-direction in learning, evaluation of all kinds of media for their potential values in the educational program, and skill in effective relationships between all members of the educational team. Added to this list are skills and competencies in handling equipment necessary to use and produce newer forms of teaching/learning paraphernalia, such equipment being all common projection and audio devices, television receivers and simple closed-circuit television apparatus, simple production devices for simple graphic materials, and so on.[29]

It has been noted that a new profession is emerging in the media field—the instructional development specialist. It will be evident later that in very few instances are training institutions training for the new kinds of jobs and approaches noted above, to say nothing of the instructional materials specialist.

THE USES OF MEDIA PERSONNEL

To identify how media personnel are used, the types of school systems that employ them, the job orientations they have, and other factors related to the kinds of work performed by media personnel, site visits were made to two samples of schools.[30] One group of visits consisted of a sample of 24 school systems each enrolling 2,500 or more children. During these visits, interviews were conducted with school library personnel, their counterparts in audiovisual instruction, and administrative personnel. No claims are made here for the universality of this survey. The sample is much too small to draw definitive conclusions. However, the data do not contradict other conclusions presented here and are at least suggestive of trends.

Some general conclusions are:

1. The smaller school systems at the system levels provide the least amount of services. Services most likely to be minimized are:
   - —School system resource centers serving an entire system
   - —Instructional materials centers serving an entire system
   - —Professional librarians
   - —Audiovisual staff
   - —Audiovisual centers

2. Despite the lack of system-level facilities, smaller school systems were more likely to have higher professional librarian/student ratios than larger systems. (An average of 1:600 in smaller systems *vs.* 1:1,150 in larger systems.)

3. Large cities seem to have a series of difficult problems to overcome — slum area schools, lack of community support for so-called "fringe" personnel, old school buildings that do not easily accommodate "media centers" without major revision, et cetera.

4. There are marked trends among school systems to hire more professionals as well as nonprofessionals. The greatest gains are among larger school systems. However, there is no way of knowing if these increases are occurring at a greater rate than enrollment increases.

5. The largest districts tended to report progress in hiring in three categories—staff members with (a) library science master's degrees, (b) other master's degrees, and (c) nonprofessional aides and clerks. The greatest gains were reported at the elementary school level. This may be interpreted as a positive effort toward achieving American Library Association (ALA) and National Education Association (NEA) standards. In addition during this time period, school districts were making efforts to acquire specialized staff at the elementary level which had previously been considered important and necessary only at the secondary level.

6. Few districts of any size reported hiring in two categories—staff members with master's degrees in media technology and technicians with appropriate training. This may be an indication of one or both of the following factors:
   - —the lack of manpower produced by training institutions available to the public schools.
   - —some progress is being made by the public school districts toward the goal of hiring personnel with traditional degrees and general clerks and aides before emphasis is placed on the hiring of specialized personnel.

7. The largest districts were able to provide more complete reports of gains because they had accessible and more extensive records

dating back to 1965. Even in the largest districts, however, we identified a need for more complete recordkeeping procedures in terms of media staff characteristics.

During the interviews, researchers often spoke with supervisory personnel within the systems. The following are comments by the personnel or observations made by the researchers that help to explain the general situation indicated from the data—that "pure" school library media centers are extremely difficult to create, usually because of lack of professional, technical, and clerical staff. The growth of the media center concept has been particularly inhibited in large urban school districts which tend to suffer from all the problems posed by bureaucracy and aging physical plants.

New York City: The term "media personnel" is not part of the official school language. Several years ago the concept was introduced, but was rejected probably because of conflict between AV and library personnel.

Boston: Staff suspected that library services would be among the first to be cut in the current budgetary squeeze since library services are viewed by many as "fringe" services.

Atlanta: The system is less in favor of hiring specialists in media approaches and prefers generalists with a knowledge of how to apply media. The view of the media specialist, then, is that he should be the brightest person or the best teacher, working as a generalist in relation to the curriculum and with students on an individual basis.

Philadelphia: There is not much chance in the immediate future of libraries receiving sufficient resources to provide the types of personnel expected of libraries and media settings.

Glendale, Ariz.: There is a tendency for schools to lean heavily toward the library field with less emphasis in the AV field. Presently, the library staff are attempting to serve as multimedia specialists, but as yet, their training has not provided them this capability.

One method of increasing professional library media services is illustrated by the program implemented in Brockton, Mass.:

The district chose to emphasize a major library media program at the high school level rather than to thinly spread a mediocre program through all levels of the school district. Thus, in personnel (the district's most scarce commodity), the high school boasts:

—5 full-time professional librarians
—5 full-time aides
—2 full-time media specialists
—1 full-time cataloger
—1 part-time TV studio technician
—1 secretary

The program in which these people work is an instructional resource center. The new high school was designed with a fully equipped modern educational structure and the city felt it should be staffed in a way to fulfill the planned design and program.

This argument is similar to that offered in other districts: namely, new schools are designed to include service or support staff and because of the design, the city accepts the idea of assigning additional personnel to the new school. The older schools continue to suffer a lack of staff, especially for "fringe" services, which generally include the library.

It may be that small districts are more likely to adopt this alternative whereas large city systems tend to place professionals at the system level in the hope of spreading services throughout a number of schools.

The second group of school site visits consisted of site visits to elementary and secondary school library media centers recommended by experts within the field for exemplary aspects of their programs. Researchers were asked to observe the facility in operation and to interview professionals in charge. The visits, lasting one-half to 1 full day in length, yielded two basic types of information for a study on manpower utilization: First, what made the particular program an especially good one; and second, what were the roles of the staff?

Characteristics of these programs included unusual architectural features (e.g., central location of the media program in the school, staff work space), acoustical features, traffic patterns through the library, easy access of materials and equipment to students, study carrels, and sophisticated equipment (such as dial access systems) available within the facility.

Often the materials and equipment within the facility had been acquired through Federal funds and often the school had been selected to establish a "model" or "demonstration" library

and was therefore provided required financial support; often the facility was operating as an adjunct to an open classroom, team teaching, or flexible scheduling program within the school. However, merely calling a program a "model" does not necessarily make it one. Silberman in his study, *Crisis in the Classroom*, pointed out:

> ITEM: A suburban community boasts of its new $3 million elementary "school of the future," opened in September 1969, in which the classrooms are all built around a central library core—"the nerve center of all educational processes in the school," as one piece of promotional literature describes it. During the school's first year of operation, children are permitted to use the library only during a weekly "library period" when they practice taking books from the shelves and returning them. They are not permitted to *read* the books they take off the shelves, however; they are there to learn "library skills," and the spelling teacher who doubles as "librarian" will not permit them to "waste time." The following year, children are not permitted to enter "the nerve center of all education processes in the school" at any time; the "librarian" has returned to teaching spelling.[31]

Another feature (at Site Visit School No. 5) was the cooperation between the library and teaching staff. The researcher noted:

> Operationally, the media center is an integrated part of the teaching team approach. For example, a social studies teacher is assigned to the library as part of the team . . . to work within the curriculum while the librarian treats the technical aspects of media presentation. The pupils then work out of the library on the particular social studies assignment. There is coordination between the media faculties, book and nonbook materials, and the classroom.

This description approximates the "system-oriented approach" advocated as the most desirable use of a school library media center and staff.

The best-of-all-worlds regarding staff was illustrated by the three professionals working at Site Visit School No. 9. It was observed:

> All three of the staff seem to be functioning in the areas for which they are best suited. For example, the chief librarian is a dynamic person with great enthusiasm and many ideas to offer teachers in the use of media. The person assigned to books is more quiet, reserved, methodical—more the conventional librarian. The media specialist, a former teacher, works quite closely with the students and seems to have much patience in teaching the use of media.

A typical description of how the children operate within these special centers came from the supervisor of the elementary school library in Site Visit School No. 6: "The students are very machine-oriented and are doing more reading than they would be doing without the media equipment and IMC program."

The program at Site Visit School No. 10 approached excellence in theory and practice. Here, books, materials, and equipment are displayed for the children to use. They are taught to check their own books in and out, set up tapes, and develop independent projects. The design of the center allows for a total open area —teachers send their children to the center, for example, for language arts. Perhaps six children come to listen to reading from tapes, or three children come in to play a particular game, or a single child uses a headset connected to a record player. Nevertheless, two problems were noted during the site visit:

1. The full use of the library media center leaves little time for the librarian to develop new programs or materials. Also, the present librarian is not trained as an AV technician and feels technical assistants would be of great value.

2. Teachers must be actively aware of the accommodations of the media center and the characteristics of their children—e.g., which child can spend 10 minutes and which 30 minutes at a task, depending on his attention span and desire to learn. A problem arises when a child is sent to the center with no assignment or when a child enters who cannot work in a flexible setting.

In spite of the exemplary features, basic

weaknesses within many of the programs were noted by the persons interviewed and/or by the researcher. These weaknesses proliferated throughout the less exemplary programs across the country. The observations presented here are illustrative of the kinds of problems that must be solved if "real" media programs are to operate successfully.

At Site Visit School No. 2, the facility was largely print-oriented with separate AV facilities and staff. The AV specialist has been very narrowly trained and has very little background, appreciation, and/or interest in library-oriented activities. The head of the instructional materials center, on the other hand, has little or no training in AV equipment and is not particularly interested in AV. Hence, neither person is really able to function in a *unified* media setting.

Site Visit School No. 1 was set up as a model library under the Elementary and Secondary Education Act; the school could afford the luxuries of furnishings, materials, and equipment but not staff. Though extremely competent and well educated, the staff would not meet standards as professionally educated library media specialists.

Site Visit School No. 6: Media centers were developed with Federal assistance in all three of the buildings serving the three academic levels—primary, elementary, and junior/senior high school. One difference noted among the three levels was the lack of use of the junior/senior high school faculty. The researcher made the following report:

> (Staff) . . . generally credited the lack of use of the IMC at the high school to the fact that elementary school teachers make more time available for IMC use. . . . This is the real key . . . teacher cooperation.

At the high school, the following was discussed:

> The superintendent thinks the IMC should be used for extra time and not for inclass or regular schooltime. (Other staff) do not agree and think that actual time should be allowed during the schoolday for students to come down and use the IMC.

And another observation was:

> (Some staff) seemed to be limited in (their) understanding of students' use of media equipment as well as limited in (understanding) the potential of creative programing for students. . . .

At Site Visit School No. 3, the researcher noted:

> (Library staff) . . . felt students in the high school are basically bored with the library and media program. They feel more in need of (group) involvement whether it is listening to records or doing anything else. (They) . . . feel it is difficult for high school students to do something individually. The gadgets are not going to do anything unless with the gadgets and the AV equipment they can do things together.

In another part of the same system, the researcher noted:

> The biggest need is for heavier duty equipment and easily repairable equipment. Some items are too fragile and too hard to repair—not from misuse, but from use.

Site Visit School No. 4: A resource center which exists in the same school as a traditional library was set up as part of an experimental program (EEP — Experimental Elementary Project). The researcher described the resource center glowingly as a place that:

> . . . assists teachers in such matters as curriculum studies, lesson plans, setting up the utilization of science labs and kits, development of visual and special materials, etc. . . .

This may be contrasted to the description of the library at the same school which was seen as underutilized except as a study hall: "It is open only certain hours and is not missed when it is closed." In spite of the features of the resource center and its services to teachers, it is clear that services to students are limited where this kind of dual setup exists.

At Site Visit School No. 7, the researcher noted:

> The principal of the school viewed the library as an extension of his office administratively. The principal and the assistant principal apparently made decisions regarding materials coordination, organization, building use, etc. Here, in spite of extremely modern facilities, the media center—in the round—is not utilized to

meet the needs of the students nor is the staff professionally in charge.

What school conditions facilitate a library changing to a multimedia center? Some that are discussed in the literature include:

—Architectural plan of a new school, open classroom program
—Learning centers/teaching stations
—Team teaching
—Individual learning contracts
—All year school schedule

Other conditions seem to hinder the development of a "true" library media center in schools. Heading this list are: attitudes of the library, audiovisual, administrative and teaching staffs, and general conditions of the schools and systems. Site Visit School District No. 8 provides an example of some of the problems represented by the development of a school library media center:

1. There were 28 elementary schools with 16 librarians and no aides in the district.
2. Elementary librarians were under the supervision of the principal for each respective building to which they are assigned. This presented problems in securing release time for staff for training, and/or orientation.
3. Librarians work the same number of weeks as teachers which did not allow them preparation, processing, or planning time when children were not in the building.
4. When librarians served more than one school, it necessitated maintaining two book collections, thereby reducing their amount of time for availability to teachers and students.
5. Facilities and space were a limiting factor for including AV equipment in the libraries. Only in the new Human Resource Center had the library been built with the multimedia concept in mind. Audiovisual equipment was administered by other than librarians.
6. Librarians' relationship to instructional programs was lagging and did not meet ALA recommendations. Librarians did not sit on any curriculum committees.
7. New teacher orientation, which used to be conducted each fall, had been abandoned. If teachers are not trained in library use, the system had no assurance that the teachers would use these facilities.
8. Library funds were very limited and restricted the expansion of book and nonbook materials. No money from the National Defense Education Act had been provided elementary libararies since 1966. As a matter of Federal policy, no title I Elementary and Secondary Education Act moneys go to elementary libraries. About $32,000 in title II, ESEA, moneys were received for school year 1970–71 for both elementary and secondary schools. About 30 percent of this funding went to the Instructional Materials Center (IMC). ESEA title II moneys were anticipated at the same level for 1971–72.
9. Paraprofessional training and use was largely dependent on the immediate supervisor.
10. Information about paraprofessional training at the community college and the COP (Career Opportunity Program) functioning in the school district was not shared with personnel supervising paraprofessionals.
11. There was no career ladder within the school district to foster the development of paraprofessionals.
12. The staff had concrete ideas on how resources should be mobilized to increase efficiency of both professionals and paraprofessionals within the media concept, but there was no avenue or vehicle to exploit the ideas.
13. Both library and AV personnel recognized the failure of training institutions to prepare classroom teachers around the media center concept and failure to adequately prepare personnel to work in the media center.

Federal assistance (titles I, II, and III of ESEA) has often provided the necessary support for school system decisions to purchase materials and equipment for school libraries.[11] This support has enabled many libraries to progress toward, if not reach ALA materials standards as media centers. Some type of aid, furthermore, has often proved necessary to guide the school system in the areas of staff development and hiring. Well-equipped or fairly well-equipped media centers often lack the professional staff necessary to ensure even minimal effectiveness of a program.

An examination of selected school library media centers featured in the literature illustrates the variety of skills demanded of trained professional and technical staff.

The following are a few examples of media centers developed with Federal support.[33]

State	Location	Level	Description of Unusual Use of Media Centers
Kansas.....	Derby.....	Elementary....	Public school library center (the Living Library) where children can check out goldfish, plants, toads, lizards, et cetera.
Kentucky.....	Daviess County....	System.....	Films, filmstrips, and aids housed in system level center are delivered by truck to eight schools.
Massachusetts.....	Martha's Vineyard.	Secondary.....	Mobile science laboratory—marine biology, astronomy. and geology—takes laboratory room for 16 students (movies, dissertations, filmstrips, and weather observations) to schools in the system.
West Virginia.....	Hancock County...	Elementary....	Provides children with a functional familiarity with furnishings and services of the average home—books, magazines, phonographs, paintings, sculptures, films, TV receivers, cameras, tapes, and recorders.

Other programs supported by portions of ESEA grants feature typical improvements made by traditional libraries that are transformed into media centers.[34]

State	Location	Level	Description of Developing Media Programs
California.....	Tuolumne County..	Secondary.....	Audiovisual materials, including a basic collection of periodicals on microfilm were added to the materials available to pupils. A duplicate reference collection was placed in study centers for improved learning conditions there and in the library.
California.....	San Diego County..	Elementary....	Teachers, administrators, and library staff have noted a positive change in attitude of children toward books and the library. This exemplary instructional materials center is open before and after regular school hours for filmstrip viewing, listening to recorded material, and using other printed and audiovisual materials.
California.....	Merced County....	Secondary.....	Information retrieval—recorded information, both disc and tape, is available to students using individual study stations. Students have access to learning media in a wide variety of forms.
Kansas.....	Wichita.....	Elementary....	Materials for use in study carrels wired for listening and viewing provide an opportunity for children to independently study. Library materials are available for use two evenings each week.
North Carolina.....	Lexington.....	Junior High....	A program is planned emphasizing independent and individual student use of newer audiovisual materials; microfilm, transparencies, tapes, and 8mm films. The library is the fulcrum of the school with areas for reference and recreational reading, conferences, seminars, exhibits, and carrels for independent study, listening, and viewing.
New York.....	Forestville.....	System.....	Microfilm collection—a microfilm collection of 24 key periodicals is available to assist students and teachers in individual research.
New York.....	Manhasset.....	System.....	Books, slides, films, recordings, filmstrips and prints are available to pupils and teachers for pilot program for cultural enrichment in the field of art in connection with outstanding humanities project.
New York.....	New York City.....	Secondary.....	A variety of multimedia social studies materials including films, filmstrips, tapes, recordings, transparencies, slides, programmed materials, pictures, periodicals, and books placed in departmental library adjacent to school library to serve an independent study program. Teachers receive orientation in making the most effective use of materials.

American Libraries featured several school systems in which innovative programs are operating in school library media centers.[35] Among them:

Location	Special Feature of Innovative Media Program	Results Produced
Connecticut	Use of closed-circuit television to teach library skills, storytelling, and for inservice training.	Improved skills for clerks and volunteers, increased interest in featured books, free time for teacher preparation.
Missouri	Involvement of library in an outdoor education project.	Carryover of interest and activities from "camp" to school.
Missouri	Library services to the blind and partially seeing.	Use of braille, talking books, and large print texts to make children participate in normal library activities.
Oregon	Use of computer centralized cataloging and listing of system holdings.	Time saved for service to faculty and students.
Maryland	Mobile units for inservice training	Increased teacher use of materials, equipment, simple production skills.
Tennessee and Florida	Unusual design of physical facilities	Library became an integral part of the school program and increased use of materials and equipment was apparent.
New York City	Joint use of collections by college and elementary school pupils.	Development of a community of learners.

In some cases, the library media center is the physical center of the school. For example, the instructional section of a high school in Tennessee is described as follows:

> The nerve center of the central communications system is located in (the student's) . . . instructional materials center. . . . Here electronic aids are available to students. . . . Surrounding the core are flexible classroom clusters each served by a subinstructional materials center. . . .[36]

Sophisticated technological skills are required by staff members in media centers featuring highly specialized equipment. For example, Oak Park and River Forest High School, Oak Park, Ill., instituted a sophisticated random access information center which permits students control over selection of materials from a single central storage facility. The library program is working toward:

> . . . greater individualization of instruction; . . . improvement of library services through the convenience and flexibility of an automated retrieval system; and . . . the elimination of the mechanical problems which inhibit student and teacher in their use of audio and visual materials.[37]

As could be expected, they found no "ideal" centers in a group of 38 real and potentially exemplary centers they visited. Even among the 38, the differences exceeded similiarities. When the top one-third was compared with the lower one-third, it was found that the better centers, among other things:

> —were more oriented toward user needs.
> —had greater accessibility (longer hours open and permitted release time for teachers).
> —had materials that stimulated teaching methods.
> —viewed inservice training as their most important contribution.[38]

OVERALL QUALITY OF SCHOOL LIBRARY MEDIA CENTERS

The survey of school library media centers and the visits to a sample of school systems and to exemplary programs enabled a limited evaluation of the overall quality and sophistication of school media centers. Respondents (staff responsible for school library media centers) were asked to rate school media centers in their districts in terms of materials available, equipment in use, space available, and the training and number of staff involved. From these data, the centers were rated at five levels——from the most limited (level 5) program which largely consisted of books and magazines, very few items of AV equipment, limited space, and limited staff, to the other extreme (level 1)

which described nearly complete media centers which contained the most sophisticated materials and equipment (video tape systems, dial access programs, etc.), space for computerized learning laboratories and TV studios, and a professional and nonprofessional staff at a ratio of about one full-time professional staff for each 1,500 students and at least one media aide or clerk for every 400 students. Generally, these criteria were adapted from the new standards for school library media programs.[39]

The vast majority of school libraries surveyed could not be classified as media centers at any level of sophistication, but were reported at level 5, in the "all other" category. In many instances, these centers would have fit into levels 4 or 3, except for their lack of staff—professional, technical, and clerical. This is additional evidence that manpower is the controlling factor that determines whether a school library progresses from a storage-retrieval room to a center that is actively involved in the school's educational program.

PRESENT STATUS OF SCHOOL LIBRARY MEDIA CENTERS

The most reasonable conclusion that one reaches is that few, if any, school library media programs are close to the standards established by ALA and NEA. The best programs are moving in that direction, and this seems to be the consensus from most professionals in the field. However, there are authorities in the field that doubt that much in the way of integrated programs is possible.

> . . . the question as to whether there can be an integrated media program at a building level (integration of audiovisual and library.) Issues continue to be raised that the two fields are really quite separate and apart conceptually, skill-wise, material-wise and personnel-wise. A question is whether or not there is a unifying thread which runs through the use of all instructional materials which would argue that collections could be put together or whether the materials and the philosophy behind their use are so different that it is impossible to merge and manage the collections; therefore, a first basic concern which I have deals with the question as to whether first of all it is philosophically sound to put all the resources together and secondly, whether it is actually possible to do so in the real world of the school system.[40]

DIFFERENCES BETWEEN LIBRARY AND AUDIOVISUAL FIELDS

It is evident and perhaps inevitable that the two areas — AV and librarianship — have attracted (and may continue to attract) people with different personalities, different interests, and different basic capabilities.

Those who choose to work with audiovisual equipment and materials select a field requiring a positive attitude toward mechanical devices --they are usually people with mechanical ability, an experimental orientation, and a feeling for machines. They tend to emphasize science systems and technology. Those who choose to work as librarians select a field requiring a positive attitude toward order, print, and paper; they are usually people with concern for details and a feeling for thoughts and words and a general orientation toward the humanities. Traditionally, the former field has attracted men and the latter women. One study reported 95 percent of the librarians in elementary and secondary schools in 1962 were women, with a median age of 50.2 years and only 10 percent were under 34 years of age.[41] It is likely that the percentage of women in school librarianship has decreased only slightly since then.

Both streams are at the end of a mobility ladder, not at the beginning or middle of one. In both cases, the school librarian and the media specialist often select their careers because the careers represent an alternative to the classroom.[42] As a result, both groups are apt to view themselves as having arrived at the end of a career line and may not be particularly interested in changing, however so slightly, to a career combining more than their specialty.

A 1966 handbook describing 22 library occupations lists as the basic aptitudes for workers: verbal, numerical, and clerical with work described as routine, organized, detailed, sedentary.[43] These descriptions differ greatly from the review of AV specialist (education, library) and audio-operator contained in *The Dictionary of Occupational Titles*. The DOT reports that

people in these positions control and operate equipment, advise in technical problems, and provide technical assistance. Many assist in the preparation of radio and TV materials for use in school classes, etc.[44] One may assume aptitudes include: eye-hand coordination and mechanical and technical skills with work described as physical, detailed, and active. Differences may be noted between librarians and educational technologists. A chairman of a department of educational communication stated:

> Educational technology deals with a process for arriving at solutions to teaching-learning problems. Library science deals with the organization, storage, and retrieval of information recorded in both print and nonprint forms. It is difficult to see how these two fields can be made synonymous. . . .[45]

If the two fields offer different jobs which attract opposites, how likely is it that on a large scale, the new unified field will be accepted by established workers or be enticing to large numbers of individuals with combined aptitudes and interests?

Ginsberg and Brown[46] noted additional difficulties relating to prevalence of women in librarianship and men in audiovisual positions. They emphasized four points relevant to this discussion:

> Librarianship has long been considered a genteel occupation. . . .
>
> . . . A significant proportion of older, unmarried women are likely to become rigid and find it difficult to accept change. . . .
>
> The salary structure and the conditions of work of library service . . . has attracted a disproportionate number of relatively unassertive women. . . .
>
> . . . Most librarians have majored in humanities. . . . Men are more likely to have a scientific or technical background. . . .

When a "media specialist" is seen as the result of creation — a newly trained specialist ready to function in a fully equipped media center — he is often seen as something of a "superhuman communicator"—a balanced combination of "librarian, information, and audiovisual specialist, . . . an agent for change in the lives of individuals, groups, and communities." [47] A list of over 30 areas of competency for media specialists range from understanding psychology and learning theory to developing problem-solving strategies to facilitating multiple access computer-based systems.[48] While not impossible, the set of competencies represents an unlikely accomplishment for the majority of people who will or do serve school library media centers. A person who is trained in media design and construction, communications systems, learning or teaching theory, equipment operation, library administration, etc., may be a "media specialist" with smatterings of information, but may not be very valuable as a consultant to teachers and students with real and specific problems.

When a "media specialist" is viewed as the result of metamorphosis—a retrained individual accustomed to a multimedia setting—he is seen as a person fashioned in the image of the viewer. For example, if the author of the description is an AV media man, the "media specialist" is viewed as an AV-oriented person with a few additional courses in library science, cataloging, processing, and perhaps, children's literature. If the author is a librarian, the media specialist is viewed as a librarian transformed by a few AV courses in the operation of equipment, the simple design of transparencies, and the like. For example, a member of the Department of Instructional Materials at Southern Illinois University described a school media specialist, his training, and skills without ever mentioning the word "library." [49] In the same publication, another article on media specialists, written by a member of a department of librarianship, defined the program as "an attempt to relate the media specialist to the total library profession" and the training offered reflects this attempt.[50]

These are just three examples. The school library media center specialist is seen in a variety of ways by a variety of people according to their own training and work experiences.

It may be easier to find a facility that is truly a school library media center[51] than to find a person within that facility who is truly a media specialist. It may be easier and more realistic to find specialists—in library science and in audiovisual techniques—who are trained with an understanding of the other's position and a

general knowledge of the other's tasks, but are trained to concentrate in one area or the other, to grow professionally in one direction or the other, and to serve the schools in one capacity or the other. There may not really be a "school library media specialist" who can fulfill the diverse expectations required in school libraries of any significant size. In any event, it may not be necessary to staff centers with such generalists; a coordinated facility with a proper philosophy of services and manned by personnel with varied training and expertise may prove to be more satisfactory. An Audiovisual Task Force Survey, supported by the American Library Association and completed in 1970, recognized that college and university training programs "responsible for career preparation of librarians, and audiovisual service personnel . . . were inadequately preparing people to conduct (school) library media programs.[52] One report that addresses this problem suggests that as libraries in schools grow in size, it becomes "impossible for one person to carry through the full range of library functions." [53]

Who will supervise those who do operate the media centers? If the librarians and AV personnel report to separate supervisors, it is less likely that a truly unified media center will be able to operate. If on top of the differentiation of staff, we place the differentiation of supervisors, we are back to the coexistence—peaceful or otherwise—of different worlds. Perhaps it is at the supervisory level that the creation of the "superhuman-communicator" is most necessary. The supervisor of a system or large school program is seen as one who is an expert:

> . . . in the areas of both printed materials and instructional technology. Planning, organizing, budgeting, scheduling, recruiting, analyzing, evaluating, innovating, publicizing, reporting, and developing rapport among the staff are functions pertinent to his work. It is important that he . . . carry forward new techniques and approaches to improve teaching and learning experiences, . . . (and be able to plan) for the participation and in-service education of the faculty if the program is to be really effective.[54]

This would place specialists at the disposal of teachers and students and well-trained generalists at the supervisory levels to assure cooperation and coexistence of the two worlds. In small schools, where only one professional is in charge of the program, it is likely that this person will be a librarian with additional training in AV techniques. Hopefully, the training will be broad and the attitude of the individual will be positive toward technology as a tool for education.

ADMINISTRATIVE PROBLEMS

There are a variety of problems that face the administrative and technical staffs of school media centers.

1. High turnover and moderate advancement possibilities: High turnover rate and consequent disservice to the system results when clerks are paid at a clerical level and expected to perform at much more demanding levels. Also, good people are discouraged from staying in the library field because no career line is open to them. It is equally unsatisfactory to have professionals working in clerical and routine areas when their expertise is so greatly needed, not only in the performance of work for which they were trained, but also in new and demanding work.[55]

2. Inappropriate training: One problem faced by trained media specialists in one author's opinion is the discrepancy between *actual* school organization and the type of organization under which the library personnel were trained to work. One university educator, L. C. Larson, Indiana University, believes:

> . . . most of the educational media personnel . . . (are) prepared to serve in . . . traditional . . . (school library programs). . . . Only a few institutions . . . (are) preparing professionals for employment in systems-oriented, student-centered learning environments where they would be expected to serve as "instructional systems technology specialists." [56]

A director of a large training program recently reported that some of their graduates have difficulty finding employment—not because jobs do not exist, but because they are not trained for the types of jobs that are available. Administrators are looking increasingly for people with backgrounds in multimedia,

identifying objectives, the design of instructional systems, evaluation techniques, etc.[57]

3. Inadequate training: too much too soon—Ginzberg and Brown noted a discrepancy between the field's willingness to recognize the need for professional and support staff and its ability to train them: (a) the field of librarianship has responded to expanded demands by rapidly increasing the number of professional and paraprofessional workers, (b) the state of preparation for the field is confused, (c) many graduate programs, particularly doctoral programs, are weak, (d) there is a need for more librarians to become acquainted with the new technology for storage and retrieval.[58] In a research study conducted of professional school librarians in Illinois, it was found that:

> The librarians feel increasing unhappiness that they do not have time . . . to stimulate broader use of services and materials, due to nonprofessional duties—processing, shelving, circulation work, typing—tasks that could be done by nonprofessional workers at a clerical rate of pay. . . . Specifically, they were spending from one-fifth to two-thirds of their professional time doing clerical and technical tasks.
>
> Students and teachers were being robbed of professional services, but the school district and the taxpayer were paying unnecessarily high rates for the performance of many tasks that could be handled by nonprofessionals at a much lower rate. Specifically, the nonprofessional tasks if done at a clerical rate would cost only 27 percent of the salary paid to professionals.[59]

4. Microform is just one type of new media finding its way into library programs. Four secondary schools in Muskegan, Michigan, utilize microform in experimental programs. One difficulty is pointed out by the author of a descriptive article — the availability of information on microform is countered by the unavailability of microform readers (portable viewers).[60]

These characteristics of media personnel and their relationship to the educational process argue, we think, against any short-term merger of media programs. There needs to be first, the creation of a new professional type and second, the willingness on the part of schools to accomplish the necessary reorganization to make effective use of these new professionals. There are signs that the new professional type is being created, but little evidence that the necessary reorganization is underway.

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CHAPTER 3

The Training of School Library Media Personnel

INTRODUCTION

Key elements in the supply of school media personnel are the roles and output of training institutions. To a large extent, the demand side of the manpower equation is a function of the activities within the school systems employing persons trained by training institutions. But this is not entirely the case, because in many respects, schools accept personnel as trained by the training institutions.

This observation raises perhaps the most crucial point in this chapter: the concept training institutions have of the level and quality of the product they produce. Generally, the concept held by training institutions is that they are now training personnel to function in a multimedia setting: This is not necessarily entirely the case.

Secondly, as noted elsewhere in this Report, a new "media type" is emerging. This person is neither a librarian nor an AV specialist, but combines many of the skills of both specialties and at the same time, becomes an integral part of curriculum development.

Third, despite the new media person emerging, the prognosis for the future is that the kinds of persons supplied will not drastically change. There are these reasons:

1. The demand from schools for the new "media person" is limited.
2. Few training institutions are producing media specialists capable of functioning in a multimedia setting, as defined by the ALA-NEA standards.
3. The institutions training new media personnel are doing so at the doctorate level and persons so trained are not likely to locate in local school systems.
4. The structure of training institutions is such that the two streams—AV training and library training—for the most part continue to operate as two relatively independent entities within training institutions and this, of course, is carried over to the schools in which the person trained eventually functions.
5. Elementary and secondary schools are generally characterized by teacher-oriented classroom settings. During the past few years, many school systems (estimates range up to 20 percent of all schools) have moved toward some form of individualized modes of instruction—giving rise to situations in which media have much more chance of becoming integral parts of the curriculum. It is still uncertain however, how far this trend will go in the future; the extent of true reform even in those schools which have changed also varies widely at this time.

EXTENT, QUALITY, AND KINDS OF TRAINING

Professional and technical staff for school library media programs are trained in schools of library science and schools of education in 2-, 4-, 5-, and 6-year programs depending upon the degree to be earned. Within the training institutions, there are three basic programs—the training of audiovisual specialists and educational technologists (generally trained within schools of education) and school librarians (generally trained within schools of library science).

In attempting to ascertain the views, attitudes, and expectations training institutions have toward and about the students they are training and the schools for which they are training staff, a survey was conducted among

colleges and universities offering media programs. A total of 440 questionnaires were mailed to colleges and universities and more than 180 (41 percent) were returned. From these, 119, or 66 percent were usable. These 119 cases form the basis of the survey data reported here. It should be emphasized that this survey is too limited to allow for generalizations about situations throughout the country. The data from this survey, however, is often suggestive.

A second aspect of the survey of training institutions consisted of site visits to eight colleges and universities. During the course of these site visits, interviews were conducted with staff members within the schools of education, as well as in the schools of library science. A basic question asked was what do training institutions train students to do?

First, and perhaps one of the most basic points that can be made, there is very little relationship between the schools of education where training for AV personnel occurs and the schools of library science where generally school librarians are trained. A typical situation is the program offered at the University of Missouri in Columbia. In that institution, multimedia materials training or nonbook materials training is not required of students trained for school libraries. An administrator of the school reports: "Graduate programs of library science are seldom geared to produce media specialists. This is not their function." [1] The usual procedure at most universities (as is the case at the University of Missouri) is that if students are interested in courses in either the school of education or the school of library science when they are enrolled in the opposite, they must, on their own initiative, enroll in courses in the other departments.

There are few, if any, examples of mergers of these two programs in any universities; indeed, joint curriculum committees, joint faculty appointments, and other signs of cooperative efforts are rare and there are unsettled questions regarding whether training programs for school library media specialists should be conducted in either the departments of education or in the schools of library science. Others also question whether or not it is even possible to train and eventually place persons to work in a unified media setting:

> . . . the task of changing preparation programs has been much more difficult than I had anticipated three or four years ago. I had really hoped that in a year or two, following the publishing of the Joint Standards there would be programs in almost every part of the country preparing individuals to serve unified programs at the building level. . . . I have not been able to detect any perceptible movement in the direction of developing new programs for the new type of personnel. Everywhere I see the typical audiovisual and library programs continuing to operate with perhaps here and there a course title enlarged to discuss both print and non-print, but the total preparation program really is not unified at all.
>
> The second concern which I have, therefore, is whether we can prepare personnel to serve the unified programs even if it should be determined that theoretically as well as practically that they could be developed. Such a concern certainly impinges upon the kind of funding for collections as well as training programs which might be proposed and implemented.[2]

A study[3] published by the Department of Library Science at Catholic University suggests that professionals be trained by schools of library science in postmaster's degree (6-year) programs which should:

> Feature an interdisciplinary approach
> Offer practical content
> Include a multimedia approach to instruction
> Be available as a part-time program

It is also difficult to arrive at estimates of the number of professionals being trained as media specialists in schools and colleges. The Association for Educational Communications and Technology (AECT) produced in 1971 a list of over 50 colleges and universities in some 28 States offering master's degrees in AV education with 11 of the schools offering advanced or doctorate degrees.[4] We estimate that less than 1,000 persons receive advanced degrees yearly from these programs.

Estimates of the numbers of students trained in schools of library science are also difficult to come by. However, estimates in this study

indicated staff employed in elementary and secondary schools as librarians in 1971, totaled around 8,500 and have been increasing by approximately 10 percent annually in recent years. About 650 persons are placed each year, most of whom have master's degrees.[5]

In the mail survey of schools of library science and education departments, respondents were asked to rate whether or not their graduates were trained to perform in "a unified media setting." Table 2 reports the results. The most important finding is that the overwhelming proportion of schools reported that their students are trained to operate in a unified media setting. Indeed, slightly more than one-third reported that their students are trained "completely and thoroughly" to operate in a unified media setting.

Table 2.—NUMBER AND PERCENTAGE OF SCHOOLS REPORTING GRADUATES, BY LEVELS OF ABILITY TO FUNCTION IN A UNIFIED MEDIA SETTING

Levels of ability to function in unified media setting	Schools reporting	
	Number	Percent
1. Able to function completely and thoroughly	41	34.5
2. Able to function reasonably well in some areas	62	52.1
3. Able to function in a limited capacity	9	7.6
4. Not able to function	1	0.8
5. No answer	6	5.0
TOTAL	119	100.0

Source: Social, Educational Research and Development, Inc., "Survey of Training Institutions of School Library Media Personnel" (Silver Spring, Md.: SERD, Inc., August 1971).

For purposes of this study, the definition of "unified media setting" used was the one contained in the ALA/NEA standards:

> By school library media programs, we mean: school libraries, instructional materials centers, media technology programs, learning resource centers, library media programs, etc., at the elementary and secondary level.[6]

There may be several explanations for the fact that the overwhelming proportion of the schools reported that their students are trained to operate in a unified media setting. Obviously, one explanation is that they are. Another explanation might be that the meaning of "a unified media setting" is so vague and amorphous that it permits and encourages a great deal of subjectivity. One basic fact suggests that the definition of a unified media setting is largely one of how separate departments view their programs. In other words, faculty members in schools of library science, as well as faculty members in schools of education view their program as one which trains students to function in a unified media setting, even though there may be little or no relationship between the two programs. It is more accurate to define a unified media setting as a program where the student is trained to select, adapt, and use all forms of media in an integrated setting. Given the present structure and orientation of training institutions, this training should be an integrated course of study between the schools of library science and the schools of education. This study did not identify a single example of such a program existing in a training institution in the United States. However, the study staff felt there must be programs existing in some institutions which are partially integrated or are moving toward that goal even though this study did not identify such a program.

About half the institutions responding to the survey offered terminal bachelor's degrees and half offered multidegrees or degrees in several multilevel programs. About 49 percent of the institutions reporting offered programs that terminated at the baccalaureate level, while about 51 percent offered programs beyond the baccalaureate level. One important point is that schools reporting only a baccalaureate degree-level program, in very few instances (10 percent) reported that their graduates are able to function completely in a unified media setting. In contrast, 46 percent of the schools offering a master's degree or higher reported their graduates are able to function in a multimedia setting. About 80 percent of the schools offering degrees at the doctorate level reported their graduates are able to function completely in a unified media setting. What this of course suggests, is: The faculty members in schools offering advanced degrees are more likely to feel that an advanced degree is adequate preparation for a multimedia operation than is a lower level degree.

In terms of output of trained personnel, by far the most rapid growth is occurring at the

doctorate level. As table 3 indicates, from 1968 to 1970, the number of graduates in doctorate level programs increased by over 140 percent, while the growth rate in baccalaureate level programs was about 26 percent.

Table 3.—PERCENTAGE INCREASES IN NUMBERS OF GRADUATES IN THE SCHOOL LIBRARY MEDIA FIELD FROM 1968-70 BY DEGREE ATTAINED

Degree Level	Numbers of graduates		Percentage gain
	1968	1970	
Baccalaureate	1,403	1,772	+26.3
Master's	1,117	1,647	+47.4
Doctorate	26	63	+142.3
Other (Certificate of advanced studies and nondegree certificated programs)	120	246	+105.0

Source: Social, Educational Research and Development, Inc., "Survey of Training Institutions of School Library Media Personnel" (Silver Spring, Md.: SERD, Inc., August 1971).

Another factor relating to the overall quality of the students produced is the size of the faculty. One might conclude that the larger the faculty the greater the chance that students would receive a variety of courses and be trained in a multimedia setting. Almost half (48 percent) of the training institutions reporting claimed five or fewer full-time-equivalent faculty in the library school or the educational media department. Over 80 percent of those departments with 10 or more full-time-equivalent (FTE) staff were in schools of education. The library science units reported the smallest departments.

Schools reporting the smallest faculty (up to three full-time equivalents in library science, library services, or media technology) were also the schools that tended to report their students less able to function (completely) in a unified media setting.

One of the major shortcomings in the area is the lack of data indicating where graduates are placed. What little data were collected indicated that the greatest change in the placement of graduates (either at the baccalaureate or graduate level) between 1967–68 and 1969–70 was a shift from placement in elementary and secondary schools to placement in junior college, college, industrial, or government settings. Very few doctorate level graduates were employed in elementary or secondary schools.

Another factor regarding the extent to which persons are trained to function in a multimedia setting is that fewer than 15 percent of the 119 schools surveyed offered majors in *media technology, selection and organization of print and/or nonprint materials, and media production.* Fewer than one-third offered practicums in school library media centers or teaching in connection with their degree programs. Only 10 responding institutions offered *more than 1* of the media-related areas as majors.

Training institutions were asked if the content of their programs had changed during the last decade. Of those responding to the question, over 85 percent offering programs at the baccalaureate and master's level reported changes in content. The descriptions of the changes indicated an increase for most schools in media-related subjects or a combination of media/library science subjects. Very few (6 percent) reported changing library science courses. This reflects the emphasis on media over the last decade, and, although these schools may not have created majors in the field of media technology, the changes in course content indicate definite moves in this direction. For those reporting plans to change program content in the next 3 years, over 50 percent of the institutions at the baccalaureate and master's levels planned changes to media programs or inclusion of a combination of media/library science content.

Although as a whole, training institutions do not provide startling evidence of vast and dynamic changes in the training of school library media personnel, there are indications that institutions are aware of new directions in library science and are moving toward training in media-related areas. This point is supported by open-ended data supplied by training institutions which offer ideal training programs for school library media staff at the elementary and secondary level.

The written comments from respondents indicated a consensus that programs at the *technical level* (prebaccalaureate level) should train in operation of equipment and should prepare graduates who can produce materials under supervision. Some schools see the technical level as one for preparation of clerical assistants. Few colleges wished to expand programs

at this level. They saw it as an area for the junior or community colleges.

At the *baccalaureate level,* disagreement existed between those who see media programs as a *major* or a *minor* course of study. Most saw media programs as a possible minor. There was general agreement that training at this level is *not* terminal, but should be preparatory for a fifth- or sixth-year master's degree program. Most respondents felt that baccalaureate level training should include teacher-training (education), introduction to media, and field experience.

During the interviews with faculty members, another theme emerged: few felt that baccalaureate level training prepared students to function in a multimedia setting, though for all practical purposes, many persons with baccalaureate degrees were actually managing school libraries and/or AV centers.

At the master's level, most respondents saw training programs following earlier training in which students gained additional experience in teaching. At this level, media specialists are more often discussed in terms of "competencies." There was some disagreement as to whether a master's program should include 1 or 2 years plus a summer session. There seemed to be no disagreement that the program *should* include a practicum (extensive field service). This consensus was apparent despite the fact that fewer than one-third of the responding institutions currently offer practicums.

At the baccalaureate and master's levels, the training institution respondents were "talking media" though it should be remembered they are discussing "the ideal" and not "reality."

Especially at the master's level, comments indicate a diversity of attitudes and approaches from simplistic views of production and administration of complex ideas of systems design and instructional leadership. Faculty interviews supported the above conclusion. Generally, the master's level prepares a student to function in an administrative or management capacity in either a school library or an audiovisual center—not both.

The following are rather typical statements (taken from returned questionnaires) of "the ideal" at various levels of training:

> Encourage *junior colleges* to take over the responsibility for providing technical assistants. For example, Texas now has four programs (Amarillo College; Tarrant Junior College, Northeast Campus; El Centro Junior College; and San Antonio Junior College.) (017)[7]
>
> A technical person with less than a baccalaureate degree *and* a school media or library certification plus competence in the other, should be in a subprofessional position and *never* be the person in charge. Preparation: 2 years' work in any of the relevant technical and clerical skills. (036)
>
> Space and time do not permit detail. Paraprofessionals should have a 2-year community college program concerning training for routine duties, clerical, production technicians, TV technicians, processing technicians. (045)
>
> Two-year programs for graphic artists, photographers, TV and electronic technicians, computer programers, etc., with some orientation toward education seems desirable. (073)

Another series of questions surround training programs for doctoral candidates. As might be expected, training at this level produces a small number of professionals and for the most part, the training prepares the student to operate in the library and/or the education field rather than in the media field. There are exceptions; most noticeable are three universities —Indiana, Michigan State, and Syracuse. These programs start with the notion that media should be a fundamental part of the instructional strategy and not, as is now the case, an enrichment service for teachers and students.[8]

At Syracuse, Dr. Donald P. Ely, director of the Center for Instructional Communications, described the Syracuse program as follows:

> This is a change from the old approach of applying technology to the teaching process when we would try to match a given medium (such as a motion picture, a series of slides, a tape recording) to a topic in a course. We're asking new kinds of questions: What do you want the learner to do? What do we want him to know? How do we want him to feel? And how can we achieve these objectives through the media we have at our command? Time

and cost, as well as the particular characteristics of the media, come into the picture at this point. So, instructional systems development is a new way of looking at the process of teaching and learning with emphasis on the learner and providing the instructor with the tools to achieve the objectives he designs.[9]

DEPARTMENTAL DIFFERENCES WITHIN TRAINING INSTITUTIONS

Within training institutions, audiovisual and library science departments remain virtually autonomous. Students see themselves as audiovisual professionals *or* librarians, the products of their respective departments. This natural identification leads those who choose to combine the two fields to define themselves as AV specialists with some library training or librarians with some AV training—two different individuals with different competencies. Since elementary and secondary school libraries are only one segment of a number of interests of AV and library science departments, it is unlikely that the two departments would be unified at the university level: Other practical considerations (Federal, State, and university funding and professional prestige and tradition) make uniting uninviting to departmental chairmen. It is evident that a total merger would necessitate a hybridization of interests and emphases, to which professionals are reluctant to submit. The instinct of self-preservation is understandable.

NONUNIVERSITY-BASED TRAINING

Institutes sponsored by community or junior colleges, Federal or State governments, or private agencies train a sizable number of media technicians, media aides, and professional specialists. For example, the Media Manpower Institutes are funded by the U.S. Office of Education. The Media Manpower Institutes offer special training for all levels of media personnel.[10] The professionals trained at one institute may conduct media institutes for professional personnel in a variety of educational settings who, in turn, may train paraprofessionals to assist their own schools. The demand for inservice training is met in this way by a spiral of training for trainers.

Another federally supported program, the National Special Media Institute,[11] is supported by the Office of Education, under the Education Professions Development Act. The group seeks to train specialized personnel:

1. To assist and support teachers and administrators in the effective use of available instructional media.
2. To develop more effective instructional media.

The Higher Education Act of 1965, title II–B, authorizes institutes designed to "upgrade and update the competencies of persons serving all types of libraries, media centers, information centers, or instructional materials centers offering library-type services and those serving as library educators."[12] Over the past 8 years, over 200 such institutes have been organized. (See table 4.)

Table 4.—HISTORY OF HIGHER EDUCATION ACT INSTITUTES FOR TRAINING IN LIBRARIANSHIP, HIGHER EDUCATION ACT, TITLE II-B

Fiscal year	Number of participants	Number of institutes held	Amount awarded
1968.....	2,084	66	$2,913,661
1969.....	3,101	91	3,684,307
1970.....	1,347	46	931,035
1971*.....	712	29	NA

*Fiscal year 1971 includes figures from college and university programs planned for summer of 1971 and the 1971–72 academic year, as of June 1971.

Source: Summary Chart, Institutes for Training in Librarianship, title II–B, HEA, Type of Librarians Trained, dated July 15, 1970, 1 p.

A report of an evaluation of 74 Media Specialist Institutes[13] serving 3,149 participants was basically positive in outlook. One encouraging finding was that 7 out of 10 of the participants who successfully completed the institutes reported complete or partial success in implementing improved media programs within 2 years after attending the institutes.

INSERVICE TRAINING

In spite of the increase in numbers of colleges, universities, and special institutes offering programs at all skill levels, the emphasis for the future may be inservice training.

In 1967, one author noted that no library

education training program in universities requires audiovisual instruction.[14] This placed a great burden on inservice training for school libraries who needed or wanted to place emphasis on a multimedia approach. Even today, inservice training is required by librarians trained prior to 1967, who had no experience with AV material, equipment, services, and evaluation, as well as by those trained in colleges and universities that have not incorporated audiovisual instruction into their programs.

Many school systems have employed inservice training specialists. One such example is the East St. Louis (Ill.) Public Schools which has hired a director of inservice training who is responsible for initiating and coordinating the training of media staff and classroom teachers.

Another example: An inservice training program was held for library aides in the public schools of Atlanta, Ga. The program aimed at permitting librarians to assume more professional duties. The evaluation indicated the aides were able (as a result of the training) to select a variety of media for educational uses, had developed skills in finding and using media, and were able in some instances, to promote individual self-direction in learning, evaluation, and the like, skill and competency in handling all common projection and audio devices, television receivers, simple closed-circuit television apparatus, and simple production devices for simple graphic materials.

FOOTNOTES

1. Roy W. Evans, "Specialization in Educational Media at the University of Missouri, Columbia,' *Illinois Libraries* 52:678 (September 1970).
2. W. C. Meierhenry, *Media Manpower*, 3:4 (March 1972).
3. James J. Kortendick and Elizabeth W. Stone, *Post-Master's Education for Middle and Upper Level Personnel in Libraries and Information Centers: Final Report, Phase I* (Project conducted for the Bureau of Research, Office of Education, U.S. Department of Health, Education, and Welfare, Washington, D.C., Bureau No. BR-8-0731 conducted by Catholic University of America, Department of Library Science, Washington, D.C., March 1970).
4. L. C. Larson, *Institutional Technology Graduate Degree Programs in U.S. Colleges and Universities, 1969–71*, (Washington, D.C.: National Education Association, 1971).
5. These data were adapted from Frank L. Schick, *North American Library Education Directory and Statistics, 1966–1968*, (Milwaukee, Wis.: American Library Association and University of Wisconsin, 1968), 106 pp.
6. Social, Educational Research and Development, Inc., "Survey of Training Institutions of School Library Media Personnel," May 7, 1971 (Mimeographed), p. 1.
7. Numbers in parentheses that follow statements are case numbers assigned to returned questionnaires as they were received.
8. See memorandum to PEMS Committee Members from L. C. Larson, Chairman, Professional Education of Media Specialists Committee, dated Mar. 12, 1971, 4 pp.
9. Michael H. Molenda, "Instructional Systems Development" (Syracuse, N.Y.; Syracuse University, 1971).
10. Institutes conducted in fiscal years 1968, 1969, and 1970 trained a total of 113 participants specifically as "school and media" librarians.
11. U.S. Office of Education, *Institutes for Training in Librarianship*, (Washington, D.C.: Bureau of Libraries and Educational Technology, U.S. Department of Health, Education, and Welfare, June 1971), 6 pp.
12. Summary Chart, Institutes for Training in Librarianship, Title II-B, HEA, Type of Librarians Trained, dated July 15, 1970, 1 p.
13. James W. Brown, "Recent Manpower Studies: Some Implications for AECT," *Media Manpower Supplement No. 2* (March 1971), p. 3.
14. Harold Goldstein, "Some Repetitious Points About In-Service Training for Audiovisual Services," *Illinois Libraries* 49:118 (February 1967).

CHAPTER 4

Contribution of Federal Programs to the Staffing of School Media Centers

There is evidence that many Federal programs of financial assistance have contributed significantly to developing unified school media services and to equipping school librarians with the competencies necessary for broadened services in school media centers. A unified school media program is one in which instructional materials and other services related to both print and audiovisual media are administered in a single program under one director.[1] Assessments of the individual contributions of a number of Federal programs to the development of the unified media center concept follow.

TRAINING PROGRAMS

Over the past several years, programs in institutions of higher education have assisted prospective and experienced school librarians to become competent in the administration of media centers. Federal assistance has been of considerable value in initiating and strengthening these efforts.

For a number of years, title XI of the National Defense Education Act (NDEA) authorized institutes for advanced study in 12 areas of specialization to meet the needs of participants for more extensive knowledge of subject matter and for increased competency in the use of new instructional materials. These areas of specialization included institutes for educational media specialists and for school library personnel. Library and media institutes were held under this program until 1968. School librarians were often admitted to the media institutes and many of the school library institutes were directed toward the administration of unified school media programs. These institutes were important because they identified leaders for the school media field, attracted new personnel into the field, updated the competencies of personnel already in school library or media work, and contributed greatly to the introduction of media and technology into elementary and secondary schools.

Title II–B of the Higher Education Act (HEA) authorized a program of Federal financial assistance to colleges and universities to assist in training in librarianship and the information sciences. Grants under this program have funded institutes for school library personnel. Grants are also made under the program for fellowships for graduate study at the master's, postmaster's, and doctoral level (however, the number of fellowships granted to prospective school media personnel is unknown).

Since 1967, 247 institutes have been conducted for 8,089 participants. In the fellowship program, 2,459 recipients have received grants for graduate study. The number of institutes and fellowships which have contributed to the conversion of school library personnel into media specialists cannot be determined; however, the program undoubtedly has had some influence.

In 1971–72, 38 institutes were conducted for 1,557 participants. The institutes were focused on such critical training needs and priority subject areas as attracting minority groups into the library profession, Right-To-Read programs, black and area studies, drug abuse education, and environmental/ecological education. Several of these institutes were conducted for school media personnel. One example is an institute at Rust College, Holly Springs, Miss.,

which retrained 30 classroom teachers as media specialists. Another program at Fisk University, Nashville, Tenn., was directed toward changing concepts and the school librarian.

ESEA TITLE I

The purpose of title I of the Elementary and Secondary Education Act (ESEA) is to expand and improve elementary and secondary school programs for educationally deprived children in low-income areas. Educationally deprived children are those who need special educational asistance to perform at the grade level for their age. The term also includes children with special educational needs resulting from poverty, neglect, delinquency, handicaps, or cultural, economic, ethnic, or linguistic isolation from the general community. Low income is only one of the factors used in determining the eligibility of a school district and the selection of title I target areas; however, educational deprivation is the sole criterion for participation in title I.

Ways in which title I funds are used to provide services for educationally deprived children have included remedial instruction in reading and mathematics, additional teachers and aides to provide more individualized instruction, summer enrichment programs, and in-service training for school personnel. The report of the first year of title I (1966) noted that one of the major project areas was school library development.[2] Approximately 8,200 school librarians were employed in title I projects and 3.3 million children were served by them. Although the exact amount of funds spent for school libraries that were media centers cannot be determined, it is obvious that so many title I library projects must have had an effect on the development of unified media programs.

In the early years of the ESEA title I program and particularly in the South and in the large cities, title I funds were frequently used for salaries for school media specialists and supervisors, media aides, and for equipment, materials, and facilities for elementary school media centers. In 1966, the 50 States, the District of Columbia, and 4 outlying areas reported that the most extensive coordination between other Federal programs and school libraries involved programs funded under title I.[3] The scope of title I assistance in school media programs can be illustrated by the following examples drawn from the ESEA title I annual reports:

- Kentucky reported an increase of 114 in the total number of certificated school librarians employed in fiscal year 1966, the largest single increase ever reported and due largely to title I.
- A report on the role of aides in ESEA title I programs in North Carolina stated that 497 school media aides were employed under title I in 1967.
- In Los Angeles, a title I project provided 23 teacher-librarians to serve 58 newly created elementary school libraries; materials were purchased for these libraries with title I funds. A professional librarian with supervisory responsibilities for these 58 libraries was added to the school district supervisory staff and her salary paid with title I funds.

The tightening of the comparability requirement in title I in recent years has had a detrimental effect on the development of school media programs serving disadvantaged children. The comparability requirement prohibits local education agencies from using title I funds as a substitute for State and local funds and specifically requires comparable services in title I and nontitle I schools. The interpretation of this requirement in a number of States has resulted in a decline in the amount of title I funds expended for school media programs and the loss of professional media personnel and media aides in school media centers serving both children who are educationally deprived and those who are not (table 5). This has also resulted in many educationally deprived children being further disadvantaged by attending schools without media services.

ESEA TITLE II

Of any recent Federal program, ESEA title II probably has been the most influential in the development of unified school media programs. Title II provides grants for the acquisition of school library resources, textbooks, and other instructional materials for the use of children and teachers in public and private elementary and secondary schools. The greatest single way

Table 5.—ESTIMATED OBLIGATIONS UNDER THE FEDERAL PROGRAMS FOR MEDIA AND MEDIA EQUIPMENT, FISCAL YEARS 1967-73

Fiscal years	ESEA Title I			ESEA Title III			NDEA Title III-A		
	Printed materials	Audiovisual materials	Audiovisual equipment	Printed materials	Audiovisual materials	Audiovisual equipment	Printed materials	Audiovisual materials	Audiovisual equipment
1	2	3	4	5	6	7	8	9	10
1967	$61,000,000	$15,000,000	$78,117,676	$5,000,000	$7,000,000	$8,000,000	$22,000,000	$9,000,000	$48,100,000
1968	71,000,000	17,000,000	89,936,700	6,000,000	8,000,000	9,000,000	20,000,000	8,000,000	47,700,000
1969	61,000,000	17,000,000	87,477,000	6,000,000	8,000,000	9,000,000	4,000,000	1,500,000	9,400,000
1970	13,163,000	1,312,400	8,456,000	1,932,000	1,712,000	1,278,000	6,881,000	9,871,000	15,178,000
1971	76,500,000	10,500,000	12,000,000	2,390,000	1,957,000	3,906,000	7,595,000	5,695,000	
1972	44,000,000	8,000,000	5,000,000	2,390,000	1,957,000	3,906,000	7,500,000	5,700,000	19,400,000
1973	44,000,000	8,000,000	5,000,000	2,390,000	1,957,000	1,906,000			

in which title II has supported the unified media concept is through the provision of newer media to improve existing collections in school libraries and to establish collections for new libraries.

There are three categories of materials which are eligible for acquisition under title II: school library resources, textbooks, and other instructional materials. The definitions of school library resources and other instructional materials are the same except that other instructional materials are not processed and organized. These two categories are defined in the title II regulations to mean photographs, reproductions, pictorial or graphic works, maps, charts, globes, and disc and tape recordings as well as books, periodicals, music scores, and documents. The inclusion of audiovisual materials as eligible school library resources under title II was a significant decision in the effort to widen the scope of school library collections to include media in all forms.

During the first 3 years of the title II programs, the percent of funds expended for audiovisual materials increased steadily (table 6, p. 38). The increases reflected State and local interest and effort in developing unified school media programs where a full range of materials is organized and made available for use. The percent of title II funds expended for audiovisual materials remained fairly stable during fiscal years 1969 and 1970 when the title II appropriation was at its lowest; however, it rose sharply in 1971 when the appropriation was increased. It is expected that the percent expended for audiovisual materials under title II will continue to rise, possibly eventually leveling off at 50 percent.

The greatest impact of ESEA title II on media programs is in elementary schools. Tables 7 and 8 provide data on the total number and percent of children participating in ESEA title II in the first 6 years of the program and the cost of materials bought for their use, by educational level. The fact that a larger number of elementary school pupils than secondary school pupils were served, with larger amounts for materials for elementary school pupils, is mainly due to the larger total number of elementary school children. However, the fact that a somewhat higher percentage of pupils were served may be accounted for by the higher

priority given elementary school pupils in some States—Kansas, New York, and Ohio, for example. It should be noted that the widespread lack of elementary school libraries was one of the major facts which prompted the writing and passing of title II. Since 1966, 17,012 new public school libraries or media centers have been established as a result of title II; of this number 14,636 were in elementary schools.

The pattern of expenditures under title II for

Table 6.—FUNDS AVAILABLE AND FUNDS EXPENDED FOR TRADE BOOKS, PERIODICALS AND OTHER PRINTED MATERIALS, TEXTBOOKS, AND AUDIOVISUAL MATERIALS UNDER ESEA TITLE II, FISCAL YEARS 1966-71

Fiscal year	Allotment	Expenditures					Percent expended for AV materials
		Trade books	Periodicals and other printed materials	Textbooks	Audiovisual materials	Total	
1	2	3	4	5	6	7	8
1966.....	$100,000,000	$64,018,074	$2,220,933	$2,959,485	$16,499,187	$85,807,094	19.2
1967.....	102,000,000	62,649,447	2,407,239	3,108,949	21,446,013	90,953,000	23.5
1968.....	99,234,000	59,267,160	2,003,083	2,174,495	24,507,227	87,951,965	29.0
1969.....	50,000,000	29,163,307	1,603,154	1,638,314	12,307,660	43,790,081	28.2
1970.....	42,500,000	22,297,268	1,559,503	244,157	9,931,837	34,032,765	29.1
1971.....	80,000,000	38,347,071	1,652,594	1,076,007	23,637,176	63,609,841	38.7

Table 7.—TOTAL NUMBER AND PERCENT OF PUBLIC AND PRIVATE SCHOOL CHILDREN ELIGIBLE AND PARTICIPATING IN ESEA TITLE II, FISCAL YEARS 1966-71, BY EDUCATIONAL LEVEL

Fiscal year	Elementary school children			Secondary school children			Total		
	Eligible	Participating	Percent participating	Eligible	Participating	Percent participating	Eligible	Participating	Percent participating
1	2	3	4	5	6	7	8	9	10
1966.....	29,855,618	28,192,189	94.4	16,365,025	15,233,584	93.1	46,220,643	43,425,773	94.0
1967.....	30,434,094	28,644,861	94.1	17,433,654	15,993,150	91.7	47,867,748	44,638,011	93.3
1968.....	31,537,690	29,195,191	92.6	17,729,492	16,125,361	91.0	49,267,182	45,320,552	92.0
1969.....	31,424,000	28,595,840	91.0	17,726,000	15,776,140	89.0	49,150,000	43,300,000	88.1
1970.....	31,360,000	29,227,520	93.2	17,690,000	16,027,140	90.6	49,050,000	43,200,000	88.1
1971.....	31,488,000	29,630,208	94.1	17,712,000	16,064,784	90.7	49,200,000	43,000,000	87.6

Table 8.—TOTAL COST OF SCHOOL LIBRARY RESOURCES, TEXTBOOKS, AND OTHER INSTRUCTIONAL MATERIALS ACQUIRED UNDER ESEA TITLE II, FISCAL YEARS 1966-71, BY EDUCATIONAL LEVEL

Fiscal year	Expenditures				Total
	Elementary		Secondary		
	Amount	Percent	Amount	Percent	
1	2	3	5	5	6
1966.....	$50,914,928	61.8	$31,545,509	38.2	$82,450,437
1967.....	55,213,552	61.6	34,396,816	38.4	89,610,368
1968.....	52,965,690	60.2	34,986,275	39.8	87,951,965
1969.....	27,290,081	62.3	16,500,000	37.7	43,790,081
1970.....	21,452,765	63.0	12,580,000	37.0	34,032,765
1971.....	41,349,841	65.0	22,260,000	35.0	63,609,841

1966–68 generally ranged from $1.01 to $3, regardless of school district enrollment size, educational level, or socioeconomic or ethnic composition of schools.[4] This pattern can be justified to some extent on the grounds that children and teachers in most schools have unmet needs for materials; however, there is a need to develop measures which reflect relative need for materials more precisely in order to target funds.

There is evidence that title II has been an important factor in adding to school media

centers types of instructional materials which had not been previously available. Of 30,617 schools adding audiovisual materials to school media centers for the first time and 51,659 schools improving existing collections of audiovisual materials in 1966–68, 21,761 schools indicated that the title II program had substantially influenced the change. For example, transparencies were made available for the first time in 37 percent of the elementary and secondary schools included in the title II survey. And even though filmstrips have had wide acceptance in elementary and secondary schools since the 1950's, about 22 percent of the schools surveyed indicated that filmstrips were introduced for the first time under title II.[5]

Another aspect of the title II program which has given great impetus to the unified media center concept has been the provision of special purpose grants. During the 7 years of the program, at least 32 States have reserved percentages of their title II allocation for such varied purposes as establishing demonstration school media centers or providing media for support of special areas of the curriculum. The demonstration programs have made available unusually rich collections of media in schools where there is adequate staff and facilities for good programs. Provision is made for visits and inservice activities for personnel from other schools and communities. A special report on the media programs in eight public schools where special purpose grants were funded indicated that these media programs contributed extensively to the instructional and learning activities of the school.[6]

Title II has also contributed to the accessibility of media. The increased quantities of materials available in schools resulted in liberalized loan regulations. A good many schools have also begun to permit pupils to borrow audiovisual materials and equipment for home use. OPEN DOOR TO LEARNING, a brochure developed in the Oregon State Department of Education to describe a special purpose grant program, states:

> Children at Mt. Vernon Elementary School in Springfield can now take home art prints, filmstrips, film loops, tapes, and records, in addition to books and magazines. In one of the older buildings of Springfield, Mt. Vernon serves many children who lack economic and cultural advantages. The newly organized checkout program increased interest in learning by exciting the student's imagination and stimulating his desire to learn more.

Although the actual materials which have been made available under title II constitute an important contribution to education, an aspect of the program which should not be overlooked is the leadership it has proved. Even though personnel is not included in title II except for administration of the program in State departments of education, it has directly and indirectly made important contributions to the provision of leadership in the school media field. Title II enabled a number of States with low populations and large rural areas, particularly those in the West and in New England, to employ State school library and audiovisual specialists for the first time. This is a significant development since it is generally true, on a statewide basis, that school libraries have reached a higher state of development in those States that have school library supervisors.

The State leadership which was provided under title II was an important factor in establishing programs of leadership, supervision, and inservice education to local school personnel participating in the ESEA title II program. These programs were conducted to help teachers and media specialists understand the value of a broad base of instructional materials, to know the materials, and to know how to use them effectively. Examples of the kind of inservice education provided include:

> Two conferences for school media leadership personnel at Monte Corona, Calif., in 1967 and 1971 were held to influence the immediate and long-range developments of school media programs and to plan more effective utilization of media, media personnel and media services. Authorities in a number of disciplines and professions helped participants examine current problems.
>
> A series of five workshops held in Connecticut in 1968 had as their objective increasing the effectiveness of school librarians through the more effective use of audiovisual materials. A better understanding of the use of a variety of media, transparencies, study prints, tapes, slides,

and microfilm was provided through actual workshop experience in producing and evaluating these materials.

Many States have developed slide-tape presentations on title II which describe for school personnel and lay groups the use of media in instructional programs.

The State school library leadership provided through State and Federal efforts has been influential in stimulating cooperation between, and in some cases merger of, school library and media organizations. Many States hold joint meetings to consider problems of mutual interest.

In the State of Washington, for example, the Association for School Libraries and the Department of Audiovisual Instruction have met and worked together on joint standards. In Oregon, the Instructional Media Association and the Association of School Librarians have merged to form the Oregon Educational Media Association. Similar mergers have occurred in many other States.

It is also a fact that title II has had a dramatic effect on the employment of school media specialists. The work involved in administering title II in local school districts has meant the development of project applications and selecting, ordering, and processing materials, as well as making the materials available to the eligible children and teachers. This has necessitated the employment of school media supervisors, staff to process materials, and media specialists to serve in individual schools. The following facts are some indication of the increase in school media personnel since 1965:

1. The number of school district central officers reporting employment of school media specialists rose from 5,850 in 1964–65 to 8,469 in 1967–68, about 22 percent appointed as a result of title II.

2. The number of school districts employing professional media staff doubled between 1964–65 and 1967–68, with almost 22 percent having been employed as a result of title II.

3. The number of school district central offices with media aides increased by 59 percent during the 3-year period, with 38 percent reporting that title II was primarily responsible.

4. Of 8,495 schools adding at least one media specialist over the 3-year period, 41 percent reported that title II was primarily responsible.

In spite of the additions to school district and building media staffs, 98 percent of school districts indicated need for additional media staff to administer title II. And even though there was considerable increase in staff in individual school buildings, 39,828 elementary schools and 8,066 secondary schools still did not have even one media specialist in 1968.

Title II has also been an important factor in stimulating State and local support of school media programs. In order to participate in title II, school districts must provide evidence that funds made available under the program will supplement and to the extent practical, increase the level of State, local, and private school funds that would normally be budgeted and expended for instructional materials. In 1964–65, nearly 17 percent of school districts spent from $6.01 to $12 for school library resources and other instructional materials; the proportion spending this amount rose to more than 26 percent in 1967–68. At the same time, the proportion of school districts spending $12.01 or more per pupil for these materials rose from 20.5 percent to over 27 percent in the same period.

ESEA TITLE III

Title III of the Elementary and Secondary Education Act provides for grants for supplementary education centers and services. The program seeks to encourage the development of worthwhile innovations in educational practices through exemplary programs and to supplement existing programs and facilities. In the first years of ESEA title III, it was a discretionary program in which projects were submitted by school districts to the Office of Education and evaluated by Office of Education personnel, State department of education staff, panels of consultants, and an advisory committee. Decisions were made as to which programs should be funded, based on these evaluations.

Analyses of the funded ESEA title III projects related to school library or school media programs found 83 projects in fiscal year 1966 and 177 projects in 1967.[7] Some projects in both years were based in one school or school district, while others were multidistrict or regional in scope. A project which attracted wide

attention in the late 1960s was developed at Oak Park-River Forest High School in Illinois. The project involved an electronic information retrieval system which permitted students to retrieve on a screen as a still picture pages from books, photographs, maps, charts, tables, graphs, or documents, films or videotapes with sound, or sound produced by tapes. The equipment needed to make such a system had never before been brought together in a school library.

In 1967, amendments to the ESEA provided for the transfer of the administration of title III to State departments of education. Title III is now administered as a State plan program; however, 15 percent of the funds are reserved as discretionary funds for projects submitted directly to the U.S. Office of Education. As of March 1970, 197 title III projects in which media played an important role were funded, costing an estimated $34.4 million.[5]

There is evidence that title III has had considerable influence in the development of regional media centers. Regional centers usually provide arrangements for sharing certain collections of printed and audiovisual materials, the centralization of facilities for the acquisition and processing of media, the provision of media and media services for very small schools, and a program of media supervision. In some cases, only a start has been made with resources and services provided for more traditional materials, but a number of title III centers possess technical, electronic, and machine devices needed in connection with information retrieval. Closed-circuit television is occasionally available for reference and information services among school districts. A project in Wapello County, Ottuawa, Iowa, provides for a combined computer-controlled media resource and data center giving easy access to a comprehensive inventory of materials and equipment for teachers in 10 counties. A similar project in Foxborough, Mass., serves six towns and also provides inservice education in the use of media.

NDEA TITLE III

The history of the National Defense Education Act's title III–A program indicates clearly that it has been of benefit to the unified media concept in elementary and secondary schools. Originally directed toward strengthening elementary and secondary school instruction in science, mathematics, and modern foreign languages, and improving State supervisory and related services in these subject areas, it now has added eight additional eligible subjects—the arts, civics, economics, English, geography, history, the humanities, and industrial arts. Audiovisual materials and equipment needed to strength instruction in the eligible subjects and minor remodeling to accommodate the materials and equipment have always been eligible (table 1). NDEA title III–A has also encouraged the use of local funds for media and equipment since it is a matching program.

The inclusion in NDEA title III of State supervisory and related services as a means of strengthening instruction in the critical subjects offered an unprecedented opportunity for State departments of education to improve leadership in the use of media. The number of State specialists in the subject areas and in instructional media greatly increased as a result of the program. In many States, the new specialists revised or wrote curriculum guides which incorporated the use of media in instructional programs. These specialists also organized and conducted extensive inservice education programs in local school systems to assure that in the schools where new equipment and materials were acquired, teachers were well-prepared to use them effectively.

The NDEA title III regulations have always permitted minor remodeling in that part of the school library that meets the audiovisual needs of instruction in the critical subjects, but only modest amounts of NDEA title III–A funds have been spent in this manner. However, these funds have been used to convert rooms in an existing library into a functional area for the operation of an audiovisual library, including storage rooms, preview rooms, distribution centers, booking rooms or areas for the production, maintenance, and repair of audiovisual materials and equipment used for instruction in the critical subjects.

CONCLUSION

There are undoubtedly other Federal programs that have stimulated the effort to con-

vert traditional school libraries into unified media centers, and to update the competencies of the personnel who administer them. Under ESEA title V, which provides funds to strengthen State departments of education, some funds have been directed to services that affect unified school media services. Professional media centers have been established, ERIC documents purchased, and graphics artists and other media staff employed. The Federal programs that serve handicapped children, the bilingual program, and various programs funded under the Education Professions Development Act (EPDA) have also made some contributions to the unified media concept.

Although these programs and the others described have affected the introduction of the newer media into elementary and secondary schools, the needs in most schools for materials and equipment are still great. In spite of the efforts made to individualize instruction, the traditional textbook is still the most used and the most common instructional device. About 65 percent of all schools report insufficient quantities of instructional materials and in many schools the most ordinary audiovisual equipment is not found in sufficient quantities for adequate use of audiovisual materials.[9] The number of schools with computer and remote access systems is infinitesimal.

About 19 percent of elementary schools and 6 percent of secondary schools have no school library or media center; some schools still have not converted their traditional libraries into media centers. Most school libraries or media centers are inadequately staffed; additional training is needed for staff already employed so that they can administer unified media services more efficiently. In some cases, responsibilities for audiovisual services have been assigned to library personnel with no additional staff.

Continuing changes in technology, the rapid expansion of knowledge, and the introduction of new curriculums and instructional techniques place great demands on media specialists. Preservice and inservice training programs for media specialists appear more likely to meet these new demands if they move in the direction of programs where students can specialize—whether focused on educational level of schools, subject matter, or type of media. Although media specialist training programs must continue to provide a curriculum in the general field of education as well as studies related to media resources and devices, the complexities of curriculum developments and media in various subject fields and the nature, development, and instructional uses of television, computers, and remote access systems require a high degree of specialization.

The introduction of unified media programs into elementary and secondary schools can be accomplished only when there is in every school a full complement of teachers, media specialists, and supporting staff who are properly prepared to use equipment and media in the instructional process. The media and equipment must be available and accessible in the quantities needed. Only when these conditions are met—through the full exploitation of the Federal-State-local partnership—will there be full utilization of the media and technology required for meaningful, relevant teaching and learning.

FOOTNOTES

1. American Library Association and National Education Association. *Standards for School Media Programs.* Chicago, and Washington, D.C.: ALA and NEA, 1969, p. xv.
2. First Annual Report, Title I, Elementary and Secondary Education Act of 1965. Washington, D.C., U.S. Office of Education, 1967.
3. U.S. Department of Health, Education, and Welfare. Office of Education, *First Annual Report, Fiscal Year 1966. Title II, Elementary and Secondary Education Act of 1965: School Library Resources, Textbooks, and Other Instructional Materials.* Washington, D.C.: U.S. Government Printing Office, 1967, p. 47.
4. *The ESEA Title II Evaluative Survey: A Preliminary Report.* U.S. Department of Health, Education, and Welfare, Office of Education, November 1970, p. 7.
5. *Ibid.*
6. U.S. Department of Health, Education, and Welfare, Office of Education. *Emphasis on Excellence in School Media Programs. Descriptive Case Studies Special Purpose Schools Program, Title II Elementary and Secondary Education Act, School Library Resources, Textbooks, and Other Instructional Materials.* May 1969. OE–20123.
7. Moses, Kathlyn J., comp. *Elementary and Secondary Education Act, Title III Projects (1965–66) Related to School Libraries and Instructional Materials Centers.* U.S. Office of Education. Duplicated. Moses, Kathlyn J., *Elementary and Secondary Edu-*

cation Act, Title III, Selected projects (1966–67) Related to School Libraries and Instructional Materials Centers, U.S. Office of Education. Duplicated.

8. *PACE (Projects To Advance Creativity in Education) Centers For Instructional Materials and Media.* U.S. Office of Education, 1970.
9. *The ESEA Title II Evaluative Survey: A Preliminary Report.* U.S. Department of Health, Education, and Welfare, Office of Education, November 1970. 17 p. (Mimeographed.)

CHAPTER 5

Projections of the Demand for Media Personnel

INTRODUCTION

Previous chapters have discussed the forces shaping the demand and supply of manpower in the school library media field; this chapter presents projections through 1980. Data are presented for four types of personnel—school librarians, library technicians, audiovisual specialists, and instructional materials (media) specialists.

In the 1968–69 school year, there were approximately 40,000 persons employed as school librarians. The total employed by 1980 could range from 51,000 to as high as 200,000, depending on the assumptions one wishes to make. The demand for library technicians could range from a very rough estimate of about 24,000 presently employed to a high of 204,000 in 1979–80.

For AV specialists, the demand could increase from about 40,000 presently employed to as high as 204,000 in 1980, and the demand for media specialists could range from the small handful presently employed to 50,000 by 1980.

Save for data on school librarians, projections of the present levels of employment in all categories are based on assumed student-staff ratios. The projected demands in all categories will depend on a variety of factors, many of which cannot be estimated at the present time.

FACTORS THAT MIGHT AFFECT PROJECTIONS

There are a number of factors—some of which are known and some of which cannot be predicted—which might affect the demand projections for school librarians, library technicians, audiovisual specialists, and media specialists.

Some of the forces which could influence the demands for the various categories stem from sources external to the school and library systems while some lie within the systems themselves. Among the forces outside the systems are such factors as the availability of Federal, State, and local funds for libraries or media centers, technological developments relating to the production and dissemination of information, and the continued pace of the information explosion.

There are several important factors internal to the school and library systems which could affect the overall demand for librarians and specialists, as well as the composition of this demand. For example, the continued consolidation of schools into larger systems could result in a greater demand for professional librarians and specialists as libraries and media centers are established to serve these larger units.

The composition of the present librarian work force could also be an important factor. Since many of the librarians are older women who started as teachers, the retirement rate in the next decade may be high. And, as the professional status of librarians and specialists is further developed and recognized, there may be a growing demand for younger and better trained individuals—men as well as women.

A factor that most certainly will reduce the likelihood of sophisticated media centers, individualized instruction, and other innovative features is the fact that in some situations, school enrollments are undergoing drastic reductions. For example, many schools in Cali-

fornia—West Covina United School District, East Whittier City School District, and the Downey Unified School District, to name a few —are all facing reduced enrollments. In some cases, the reductions are estimated to be as high as 25 percent before the end of the decade. When such loss of enrollment occurs, it means among other things underutilized or vacated schools and less State and local funds.[1]

Consolidation of library and audiovisual activities into full-fledged media centers would be another development which would affect the composition of demand for librarians and the various types of specialists.

THE DEMAND FOR INDIVIDUAL FIELDS THROUGH 1980

Projections of the demand for *school librarians* are based on projected enrollments in elementary and secondary schools. Enrollment projections to 1979–80 have been prepared by the U.S. Office of Education.[2]

The Office has developed three sets of demand projections for school librarians. *Projection A* is based on the assumption that the pupil-librarian ratio of 1,297 to 1, which prevailed in 1967–68, will remain unchanged during the 1970's (1967–68 is the last year for which statistics on school librarians are available). *Projection B* is based on the assumption that the pupil-librarian ratio will continue to improve at an average annual rate of 3.5 percent. This is the average rate of improvement that was experienced from 1958–59 to 1967–68 (table 9). If this rate of improvement continues, there will be 1,011 pupils per librarian in 1974–75 and 846 in 1979–80. *Projection C* shows the number of librarians that would be required to achieve and maintain a ratio of 1 full-time librarian for every 250 pupils. This is the ratio recommended by the American Library Association and the National Education Association.[3]

Table 10 shows the total number of librarians that would be required in each year on the basis of projection A, projection B, and projection C. We believe projection B is more realistic at this time. It would indicate an increase in the number of librarians of slightly more than 10 percent from 1967–68 to 1969–70. The increase in projection A would be less than 3 percent during this 2-year period.

Table 9.—TOTAL ELEMENTARY AND SECONDARY SCHOOL ENROLLMENT, FULL-TIME-EQUIVALENT SCHOOL LIBRARIANS, AND PUPILS PER LIBRARIAN 1958-59 TO 1967-68

Year	Total enrollment[1] (in thousands)	School librarians	Pupils per librarian
1958–59.....	39,581	[2] 22,500	1,758
1959–60.....	40,782	[2] 23,200	1,758
1960–61.....	42,181	[2] 24,000	1,758
1961–62.....	43,364	[2] 24,800	1,749
1962–63.....	44,849	[2] 25,800	1,738
1963–64.....	46,487	[2] 27,570	1,686
1964–65.....	47,716	[4] 30,320	1,574
1965–66.....	48,473	[2] 33,290	1,456
1966–67.....	49,339	[4] 35,830	1,377
1967–68.....	49,891	[2] 38,460	1,297

[1] U.S. Office of Education, *Projections of Educational Statistics to 1979-80* (Washington, D.C.: Government Printing Office 1970), p. 21.

[2] U.S. Office of Education, *Digest of Educational Statistics* (Washington, D.C.: Government Printing Office, 1964), p. 155 1958–59 statistics for public school librarians are based on an Office of Education survey. An estimate was made for nonpublic schools based on the assumption that the ratio of pupils to librarians is the same for public and nonpublic schools. (The 1962 Office of Education school building inventory indicated that the average number of pupils per centralized school library is about the same for public and nonpublic schools.) The numbers of school librarians in the years 1959–60 to 1962–63 are estimated by the Office of Education.

[3] For these years, the numbers of public school librarians are published in the *Digest of Educational Statistics*. The numbers of nonpublic school librarians are estimated on the basis of the pupil-librarian ratios in the public schools.

[4] No statistics for school librarians are available for these years. The numbers are estimated by interpolating the pupil-librarian ratios for the adjoining years.

The Bureau of Labor Statistics (BLS) in the U.S. Department of Labor has made some preliminary estimates of full- and part-time employment of school librarians in 1970 for use in the new *Occupational Outlook Handbook*. The preliminary figures indicate that total employment of school librarians rose by about 12 percent to 15 percent between 1968 and 1970.

Table 11 shows the number of additional librarians that would be needed each year for improvements in the pupil-librarian ratio and for replacing librarians that leave the schools. Requirements under projections A and C would be only for turnover replacement, while projection B also provides for a 3.5 percent improvement in the pupil-librarian ratio each year.

There do not appear to be any statistics available on *school library technicians*. For the purpose of making projections A and B shown in table 12 (p. 48), we assumed that 3 library tech-

Table 10.—PROJECTED ENROLLMENT AND FULL-TIME-EQUIVALENT EMPLOYMENT OF LIBRARIANS IN ELEMENTARY AND SECONDARY SCHOOLS 1968-69 TO 1979-80

Year	Total enrollment [1] (in thousands)	Number of librarians		
		Projection A [2]	Projection B [3]	Projection C [4]
1968-69.....	50,744	39,120	40,530	202,980
1969-70.....	51,319	39,560	42,480	205,280
1970-71.....	51,600	39,780	44,250	206,400
1971-72.....	51,600	39,780	45,870	206,400
1972-73.....	51,500	39,700	47,420	206,000
1973-74.....	51,300	39,550	48,950	205,200
1974-75.....	51,200	39,470	50,640	204,800
1975-76.....	51,000	39,320	52,250	204,000
1976-77.....	50,900	39,240	54,030	203,600
1977-78.....	50,800	39,160	55,890	203,200
1978-79.....	50,900	39,240	58,040	203,600
1979-80.....	51,000	39,320	60,280	204,000

[1] U.S. Office of Education, *Projections of Educational Statistics to 1979-80* (Washington, D.C.: Government Printing Office, 1970), p. 21. The figures for 1968-69 and 1969-70 represent actual enrollment.

[2] Projection A is based on the assumption that the pupil-librarian ratio is 1,297 to 1 which existed in 1967-68 will remain unchanged through the 1970's.

[3] Projection B is based on the assumption that the pupil-librarian ratio will continue to improve at the rate of 3.5 percent per year. This represents the average rate of improvement from 1958-59 to 1967-68.

[4] Projection C shows the number of librarians that would be required to achieve and maintain a ratio of 1 full-time librarian for every 250 pupils. This is the ratio recommended in American Library Association and the National Education Association, *Standards for School Media Programs* (Chicago: American Library Association and Washington, D.C.: National Education Association, 1969), p. 12.

nicians will be required for every 5 professional school librarians. This is the ratio that was used in a recent study of media programs in eight public schools.[4] While this is admittedly an extremely small sample, there is other evidence which suggests it may be a fairly reasonable estimate. For example, for the 1970–71 edition of the *Occupational Outlook Handbook*, the Bureau of Labor Statistics' Outlook staff estimated that there were about 2 library technicians employed for every 3 librarians in all libraries in 1968. However, they now believe that the estimate of library technicians was probably too high. Therefore, the ratio would be somewhat less than 2 to 3.

In surveys of public libraries some years ago, it was found that there was approximately 1 "subprofessional" employee for every 2 professional librarians in 1956, 1950, and 1945.[5] While the ratio of 3 to 5 falls about halfway between the ratios of 1 to 2 and 2 to 3, this is, of course, no proof that this is the right ratio.

Projection C for library technicians shows

Table 11.—ESTIMATED DEMAND FOR LIBRARIANS IN ELEMENTARY AND SECONDARY SCHOOLS, 1965-66 TO 1979-80 (BASED ON FULL-TIME-EQUIVALENT EMPLOYMENT)

Year	Total librarian demand	Demand for additional librarians		
		Total	For improvement in pupil-librarian ratio [1]	For turnover [1]
Estimated Actual				
1965-66...	33,290	5,400	2,970	2,430
1966-67...	35,830	5,200	2,540	2,660
1967-68...	38,460	5,500	2,630	2,870
Projection A [2]				
1968-69...	39,120	3,080	.....	3,080
1969-70...	39,560	3,130	.....	3,130
1970-71...	39,780	3,160	.....	3,160
1971-72...	39,780	3,180	.....	3,180
1972-73...	39,700	3,180	.....	3,180
1973-74...	39,550	3,180	.....	3,180
1974-75...	39,470	3,160	.....	3,160
1975-76...	39,320	3,160	.....	3,160
1976-77...	39,240	3,150	.....	3,150
1977-78...	39,160	3,140	.....	3,140
1978-79...	39,240	3,130	.....	3,130
1979-80...	39,320	3,140	.....	3,140
Projection B [2]				
1968-69...	40,530	5,150	2,070	3,080
1969-70...	42,480	5,190	1,950	3,240
1970-71...	44,250	5,170	1,770	3,400
1971-72...	45,870	5,160	1,620	3,540
1972-73...	47,420	5,220	1,550	3,670
1973-74...	48,950	5,320	1,530	3,790
1974-75...	50,640	5,610	1,690	3,920
1975-76...	52,250	5,660	1,610	4,050
1976-77...	54,030	5,960	1,780	4,180
1977-78...	55,890	6,180	1,860	4,320
1978-79...	58,040	6,620	2,150	4,470
1979-80...	60,280	6,880	2,240	4,640
Projection C [2]				
1968-69...	202,980	167,600	164,520	3,080
1969-70...	205,280	16,240	.....	16,240
1970-71...	206,400	16,420	.....	16,420
1971-72...	206,400	16,510	.....	16,510
1972-73...	206,000	16,510	.....	16,510
1873-74...	205,200	16,480	.....	16,480
1974-75...	204,800	16,420	.....	16,420
1975-76...	204,000	16,380	.....	16,380
1976-77...	203,600	16,320	.....	16,320
1977-78...	203,200	16,290	.....	16,290
1978-79...	203,600	16,260	.....	16,260
1979-80...	204,000	16,290	.....	16,290

[1] The number of additional librarians needed to replace those leaving school employment each year is estimated to be 8 percent of the total employed in the previous year. This assumed turnover rate for librarians is the same as the one used by the Office of Education to project the turnover of classroom teachers in public schools. See U.S. Office of Education, *Projections of Educational Statistics to 1979-80* (Washington, D.C.: Government Printing Office, 1970), p. 62.

[2] Projection A is based on the assumption that the pupil-librarian ratio will remain the same as it was in 1967-68. Projection B is based on the assumption that the pupil-librarian ratio will continue to improve at the rate of 3.5 percent per year. This was the average rate of improvement from 1958-59 to 1967-68. Projection C shows the number of librarians that would be required to meet the standard of 1 librarian for every 250 students as recommended by the American Library Association and the National Education Association.

Table 12.— ESTIMATED DEMAND FOR LIBRARY TECHNICIANS IN ELEMENTARY AND SECONDARY SCHOOLS: 1965-66 TO 1979-80 (BASED ON FULL-TIME-EQUIVALENT EMPLOYMENT)

Year	Total technician demand [1]	Demand for additional technicians [1]		
		Total	For improvement in pupil-technician ratio	For turnover [2]
Estimated Actual				
1965-66...	20,000	3,300	1,800	1,500
1966-67...	21,500	3,100	1,500	1,600
1967-68...	23,100	3,300	1,600	1,700
Projection A [3]				
1968-69...	23,500	1,800	.....	1,800
1969-70...	23,700	1,900	.....	1,900
1970-71...	23,900	1,900	.....	1,900
1971-72...	23,900	1,900	.....	1,900
1972-73...	23,800	1,900	.....	1,900
1973-74...	23,700	1,900	.....	1,900
1974-75...	23,700	1,900	.....	1,900
1975-76...	23,600	1,900	.....	1,900
1976-77...	23,500	1,900	.....	1,900
1977-78...	23,500	1,900	.....	1,900
1978-79...	23,500	1,900	.....	1,900
1979-80...	23,600	1,900	.....	1,900
Projection B [3]				
1968-69...	23,300	3,000	1,200	1,800
1969-70...	25,500	3,100	1,200	1,900
1970-71...	26,600	3,100	1,100	2,000
1971-72...	27,500	3,000	900	2,100
1972-73...	28,500	3,200	1,000	2,200
1973-74...	29,400	3,200	900	2,300
1974-75...	30,400	3,400	1,000	2,400
1975-76...	31,400	3,400	1,000	2,400
1976-77...	32,400	3,500	1,000	2,500
1977-78...	33,500	3,700	1,100	2,600
1978-79...	34,800	4,000	1,300	2,700
1979-80...	36,200	4,200	1,400	2,800
Projection C [3]				
1968-69...	202,980	167,600	164,520	3,080
1969-70...	205,280	16,240	.....	16,240
1970-71...	206,400	16,420	.....	16,420
1971-72...	206,400	16,510	.....	16,510
1972-73...	206,000	16,510	.....	16,510
1973-74...	205,200	16,480	.....	16,480
1974-75...	204,800	16,420	.....	16,420
1975-76...	204,000	16,380	.....	16,380
1976-77...	203,600	16,320	.....	16,320
1977-78...	203,200	16,290	.....	16,290
1978-79...	203,600	16,260	.....	16,260
1979-80...	204,000	16,290	.....	16,290

[1] The estimated actual demand for library technicians and the projected demand under projections A and B are based on the assumption that about 3 library technicians are required for every 5 professional librarians or media specialists. This is the actual ratio that was found in a recent study of media programs in 8 public schools. See U.S. Office of Education, *Emphasis on Excellence in School Media Programs* (Washington, D.C.: Government Printing Office, May 1969), p. 218.

[2] The estimated turnover rate for technicians is based on the same assumptions used in estimating the turnover rate for librarians. (See footnote 1, table V-3.)

[3] Projections A and B for Library technicians are based on projections A and B for librarians with an assumed ratio of 3 technicians to 5 librarians. Projection C shows the number of technicians that would be required to meet the standard of about 1 technician for each professional librarian or media specialist recommended by the American Library Association and the National Education Association in *Standards for School Media Programs* (Chicago: American Library Association and Washingfon, D.C.: National Education Association, 1969), pp. 16-17.

the number of technicians that would be required to meet the standard of about one technician for each professional librarian or media specialist as recommended by the American Library Association and the National Education Association.

Projected demands for *audiovisual specialists* are shown in table 13. The projections are based on the assumption that 1 audiovisual specialist will be required for each full-time librarian.

Table 13.—PROJECTED DEMAND FOR AUDIOVISUAL SPECIALISTS IN ELEMENTARY AND SECONDARY SCHOOLS 1968-69 TO 1979-80[1]

Year	Projection A [2]	Projection B [3]	Projection C [4]
1968-69.....	39,120	40,530	202,980
1969-70.....	39,560	42,480	205,280
1970-71.....	39,780	44,250	206,400
1971-72.....	39,780	45,870	206,400
1972-73.....	39,700	47,420	206,000
1973-74.....	39,550	48,950	205,200
1974-75.....	39,470	50,640	204,800
1975-76.....	39,320	52,250	204,000
1976-77.....	39,240	54,030	203,600
1977-78.....	39,160	55,890	203,200
1978-79.....	39,240	58,040	203,600
1979-80.....	39,320	60,280	204,000

[1] These projections are based on the assumption that the demand for audiovisual specialists will be equal to the demand for librarians in the elementary and secondary schools.

[2] Projection A is based on the assumption that the pupil-librarian ratio of 1,297 to 1 which existed in 1967-68 will remain unchanged through the 1970's, equalling demand for audio-visual specialists.

[3] Projection B is based on the assumption that the pupil-librarian ratio will continue to improve at the rate of 3.5 percent per year. This represents the average rate of improvement from 1958-59 to 1967-68.

[4] Projection C shows the number of AV specialists that would be required to achieve and maintain a ratio of 1 full-time AV specialist for every 250 pupils. This is the ratio recommended by the American Library Association and the National Education Association, in *Standards for School Media Programs* (Chicago: American Library Association and Washington, D.C.: National Education Association, 1969), p. 12.

Projected demands for the "new breed" of "true" *media specialists* are shown in table 14. Projections are shown for three alternative assumptions concerning the ratio of pupils per media specialist.

Table 14.—PROJECTED DEMAND FOR MEDIA SPECIALISTS IN ELEMENTARY AND SECONDARY SCHOOLS 1968-69 TO 1979-80

Year	Total enrollment [1] (in thousands)	Demand for media specialists		
		Projection I [2]	Projection II [3]	Projection III [4]
1968-69.....	[5] 50,744	20,300	33,800	50,700
1969-70.....	[5] 51,319	20,500	34,200	51,300
1970-71.....	51,600	20,600	34,400	51,600
1971-72.....	51,600	20,600	34,400	51,600
1972-73.....	51,500	20,600	34,300	51,500
1973-74.....	51,300	20,500	34,200	51,500
1974-75.....	51,200	20,500	34,100	51,300
1975-76.....	51,000	20,400	34,000	51,200
1976-77.....	50,900	20,400	34,000	51,000
1977-78.....	50,800	20,300	33,900	50,900
1978-79.....	50,900	20,400	33,900	50,900
1979-80.....	51,000	20,400	34,000	51,000

[1] U.S. Office of Education, *Projections of Educational Statistics to 1979-80* (Washington, D. C.: Government Printing Office, 1970 p. 21

[2] Projection I is based on an assumed ratio of 1 media specialist for every 2,500 pupils.

[3] Projection II is based on an assumed ratio of 1 media specialist for every 1,500 pupils.

[4] Projection III is based on an assumed ratio of 1 media specialist for every 1,000 pupils.

[5] Actual enrollment in 1968-69 and 1969-70.

FOOTNOTES

1. *Los Angeles Herald Examiner*, July 30, 1972.
2. U.S. Office of Education, *Projections of Educational Statistics to 1979–80* (Washington, D.C.: Government Printing Office, 1970), 130 pp.
3. American Library Association and National Education Association, *Standards for School Media Programs* (Chicago: American Library Association and Washington, D.C.: National Education Association, 1969), p. 12.
4. U.S. Office of Education, *Emphasis on Excellence in School Media Programs* (Washington, D.C.: Government Printing Office, May 1969), p. 218.
5. U.S. Office of Education, *Statistics of Public Libraries: 1955–56* (Washington, D.C.: Government Printing Office, 1959), p. 34.

APPENDIX A

Methods and Techniques

This study employed four basic approaches. First, an exhaustive survey was made of the literature. This included a search of the ERIC system, letters of inquiry to training institutions, et cetera. Appendix B contains the bibliography produced as a result of this search.

Second, 19 onsite visits were made to exemplary school library media programs. The schools visited were selected as follows: First, letters were sent to all State departments of education asking them to complete a brief questionnaire indicating school library media programs they thought to be the most outstanding in their States. Criteria and definitions were provided for outstanding programs which included the extent to which professional and broadly based staff were employed, and the kinds of materials, equipment, and space that was available. Also, letters were sent to training institutions and persons knowledgeable in the field asking them to send lists of what they considered to be outstanding programs. Finally, a survey of the literature was completed to identify examples of outstanding programs. About 60 programs were identified and through telephone conversations and letters to school systems, this list was narrowed to about 25 school systems. During the course of the site visits, the research staff interviewed AV personnel, librarians, school authorities, observed the activities underway in the school library media centers, et cetera. A detailed site visit report was produced on each program.

The schools with exemplary programs and which were visited by the research staff were:

Evergreen Park Elementary School, Evergreen Park, Ill.

John H. Glenn Junior High School, Palo Alto, Calif.

Hollywood Hills High School, Hollywood, Fla.

Instructional Materials Center, School District #50, Westminster, Colo.

Intermediate School #303, Coney Island, N.Y.

John H. Glenn Junior High School, San Angelo, Tex.

Lake Normandy Elementary School, Rockville, Md.

Lindbergh High School, St. Louis, Mo.

Matzke Elementary School, Houston, Tex.

Max Sennet Middle School, Houston, Tex.

McCluer High School, Ferguson, Mo.

New York City PS #332, Brooklyn, N.Y.

Oak Park/River Forest High School, Oak Park, Ill.

R. Elisabeth Maclary School, Newark, Del.

Shaker Heights High School, Shaker Heights, Ohio

Southshore High School, Canarsie, N.Y.

W. C. Handy Elementary School, Florence, Ala.

Waterford Union High School, Waterford, Wis.

Yorktown High School, Arlington, Va.

A third approach employed in this study was the collection of indepth data. The ELSEGIS survey was used as a base for drawing a sample of 38 school systems. Four enrollment groups were used to form the sample. They were: school systems enrolling 25,000 or more students; school systems enrolling between 10,000 and 24,999 students; school systems enrolling 5,000–9,999 students; and school systems enrolling less than 5,000 students. A total

of 16 school systems were selected for the first enrollment group, 13 school systems for the second enrollment group, 4 school sytems for the third enrollment group, and 5 school systems for the fourth enrollment group. School systems included in the sample were asked to complete a detailed survey instrument asking them to provide information on the equipment and materials available in the school library media centers within the system, the staff, size of facility, et cetera.

The 32 school systems visited were:

Abington School District, Abington, Pa.
Atlanta Public Schools, Atlanta, Ga.
Boston Public Schools, Boston, Mass.
Brockton Public Schools, Brockton, Mass.
Cassadaga Valley Central School District, Sinclairville, N.Y.
Chesapeake Public Schools, Chesapeake, Va.
City of Newport News Public Schools, Newport News, Va.
Cleveland City School District, Cleveland, Ohio
Cypress Fairbanks School District, Cypress, Tex.
Dade County Public Schools, Miami, Fla.
Detroit Public Schools, Detroit, Mich.
District School Board of De Soto County, Arcadia, Fla.
East Aurora Public Schools, East Aurora, N.Y.
Evanston Community Consolidated #65, Evanston, Ill.
Evanston Township High School District, Evanston, Ill.
Ferguson-Florissant School District, Ferguson, Mo.
Flagstaff School District #1, Flagstaff, Ariz.
Glendale Union High School District 205, Glendale, Ariz.
Lindbergh School District R-8, St. Louis, Mo.
Nassau School District, Fernandino Beach, Fla.
Newark School District, Newark, N.J.
New London School District, New London, Conn.
New York Board of Education, New York City, N.Y.
Oakland Unified School District, Oakland, Calif.
Queen Anne County Board of Education, Centreville, Md.
Rockford Public Schools, Rockford, Ill.
San Angelo Independent School District, San Angelo, Tex.
School District of Philadelphia, Philadelphia, Pa.
School District of the City of Allentown, Allentown, Pa.
School District of the City of Pontiac, Pontiac, Mich.
Spring Branch Independent School District, Houston, Tex.
Wilmington City Schools, Wilmington, Del.

A total of 440 training institutions were sent questionnaires inquiring about the nature of their enrollment, plans for the future, et cetera.

The fourth approach used was site visits to seven training institutions which the survey of the literature and interviews with persons within the profession suggested were conducting outstanding programs. The training institutions visited were:

Boston University, Boston, Mass.
Indiana University, Bloomington, Ind.
Monroe Community College, Buffalo, N.Y.
San Jose State College, San Jose, Calif.
Syracuse University, Syracuse, N.Y.
University of Denver, Denver, Colo.
University of Maryland, College Park, Md.

Finally, whenever possible, interviews were conducted with persons in the field who appeared to be providing leadership, were aware of trends, and were generally interested in the crucial and critical issues affecting school library media programs. About 25 of these persons were interviewed.

APPENDIX B

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